

NIKITIN, Nikolay Ignat'yevich. Prinimali uchastiye: ABRAMOV A. Ye.A., starshiy nauchnyy sotr., kand. khim. nauk; AKIM, E.L., inzh.-tekhnolog; ANTONOVSKIY, S.D., dots., kand. tekhn. nauk; VASIL'YEVA, G.G., inzh.-tekhnolog; ZAYTSEVA, A.F., starshiy nauchnyy sotr., kand. tekhn. nauk; KLENKOVA, N.I., kand. tekhn. nauk; MALEVSKAYA, S.S., kand. khim. nauk; NIKITIN, V.N. starshiy nauchnyy sotr., kand. fiz.-mat. nauk; OBOLENSKAYA, A.V., kand. tekhn. nauk, dotsent; PETROPAVLOVSKIY, G.A., starshiy nauchnyy sotr., kand. tekhn. nauk; PONOMAREV, A.N., kand. tekhn. nauk, dots.; SOLECHNIK, N.Ya., prof., doktor tekhn. nauk; TOKAREV, B.I., inzh.; TSVETAYEVA, I.P., kand. tekhn. nauk; CHOCHIYEVA, M.M., kand. tekhn. nauk; ELIASHBERG, M.G., doktor tekhn. nauk; YUR'YEV, V.I.; KARAPETYAN, G.O., red.izd-va; ZAMARAYEVA, R.A., tekhn. red.

[Wood chemistry and cellulose] Khimiia drevesiny i tselliulozy. (MIRA 15:2)
Moskva, Izd-vo Akad.nauk SSSR, 1962. 711 p.

1. Chlen-korrespondent Akademii nauk SSSR (for Nikitin). 2. Zave-
duyushchiy kafedroy fizicheskoy i kolloidnoy khimii Lesotekhnicheskoy akademii (for Yur'yev).
(Celluloso)

YUR'YEV, V.I.; POZIN, S.S.; SKURIKHINA, G.M.

Studying the adsorption and electrokinetic characteristics
of sulfite and sulfate celluloses in relation to aluminum
salt solutions. Trudy LTA no.91:11-20 '60. (MIRA 15:12)

1. Leningradskaya lesotekhnicheskaya akademiya imeni
Kirova.
(Cellulose—Electric properties)
(Aluminum salts) (Adsorption)

ج. ج. 115-1، 355، 342، 003/013
ج. ج. 115-1

¹⁰ See, for example, the discussion of the 1992 Constitutional Convention in the *Constitutional Convention of 1992: The Final Report* (1993).

Figure 1. The effect of liquid water on the rate of diffusion of CO_2 through a polyethylene film.

At the same time, the streamlining, δ is the streamlining angle, θ is the elevation angle, ϕ is the azimuth angle, and the aviation passes

2 060, 03 035, 002 003, 013
24 03 03 07

— 1 —

minimum surface condition is obtained when the surface is a sphere.

THE PRACTICAL USE OF THE COMPUTER

YUR'YEV, V. I.

Parametric amplifier with transverse interaction and electrostatic focusing of the electron beam. Izv. vys. uch. zav., radiofiz. S. no. 1:153-161 '65. (MIRA 18:6)

21520-66 EAT(1)/EHA(n) JM

ACC NR: AP6007500

SOURCE CODE: UR/0109/66;011;02/0237/0243

AUTHOR: Yur'yev, V. I.; Machulka, O. A.

ORG: none

TITLE: Experimental investigation of the suppression of near-carrier 1-f fluctuation in a power TW-tube output

SOURCE: Radiotekhnika i elektronika, v. 11, no. 2, 1966, 237-243

TOPIC TAGS: traveling wave tube, signal noise separation

ABSTRACT: The results of an experimental investigation of the effect of secondary emission upon 1-f noise in a 10-kv 10-kw cw TW-tube are reported. For controlling the collector secondary emission, a special ring electrode was mounted in the tube, between the collector and the waveguide output end. Both the collector and the structure were grounded, while the ring received a negative potential (1200 to 2000 v) from a special h-v rectifier. Mainly, the ring electrode repelled secondary slow electrons toward the collector; this resulted in decreasing the secondary-electron volume density and also the ion density. Through lowering the collector-region potential with respect to the beam potential by 10%, the phase noise could be reduced by 10-15 db. Orig. art. has: 8 figures and 5 formulas. [03]

SUB CODE: 09 / SUBM DATE: 30Oct64 / OTH REF: 004/ ATD PRESS: 4222

Card 1/1dta

UDC: 621.385.632:621.391.822.3

REF ID: A6711/EWA (a)-2/ERG (t)/EE (o)-2/EWA (n)-2/EWA (h) 1m-4/Pz-5/Pec/Fi-4/
1m-7/1m-17
ACCESSION #: APPC1635

UR/0141/65/008/003/0153/0161

AUTHOR: Yur'yev, V. I.

TITLE: Parametric amplifier with transverse interaction and electrostatic focusing of the electron beam

SOURCE: IVUZ. Radiotekhnika, v. 8, no. 1, 1965, 153-161

TOPIC TAGS: parametric amplifier, transverse interaction, electrostatic focusing

ABSTRACT: After first comparing the two basic types of parametric amplifiers with electron beams, namely with longitudinal interaction and with transverse interaction, and briefly discussing the advantages and disadvantages of this type, the author demonstrates the feasibility of a parametric amplifier with transverse interaction and with electrostatic focusing of the electron beam, which obviates the need for cumbersome magnets and complicated high-frequency circuits. The elements used to couple the signal with the beam have been proposed by R. H. Pantell (Mikrowellenrohren. Vortrage der Internationalen Tagung, Mikrowellenrohren. Munchen, 7-11 Juni, 1960, Friedr. Viewegsche Braunschweig). It is claimed that the system proposed is on the whole simpler than that of I. Matsuo (Zarubezhnaya radioelektronika

Card 1/2

L 53019-65

ACCESSION NR: AP5010485

(ib. v. 3, 73, 1961). Photo are presented of the gain, minimum length of coupler, frequency, and electron velocity on the potential difference between the electrodes of the coaxial line, of the dependence of the gain, minimum length, frequency, and unperturbed radius of the trajectory of the electron on the radius of the outer electrode, and the dependence of the gain on the pump signal power. Orig. art. has 3 figures and 37 formulas.

ASSOCIATION: None

SUBMITTED: 30Mar64

ENCL: 00

SUB CODE: EC

MR REF Sov: 006

OTHER: 011

650 2/2

YUR'YEV, V.K.

Theoretical shape of a beam having a uniform resistance to
bonding. Trudy KAI 46:87-94 '59. (MIRA 14:2)
(Girders)

YUR'YEV, V.K.

Design of continuous beams with an even transverse strength taking the gravity into consideration. Trudy KAI no.62:39-43 '61. (MIRA 17:2)

10.6000 1327

S/124/61/000/012/035/038
D237/D304

AUTHOR: Yur'yev, V. K.

TITLE: Calculating panels of constant cross-section

PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 12, 1961,
18, abstract 12V128 (Tr. Kazansk. s.-kh. in-
ta, 1958, 1, no. 37, 149-158)

TEXT: Stresses are determined in a thin-walled panel on a framework under a co-planar load of axial forces applied to the ends of longitudinal ribs and of a transverse load. The proposed method of calculation is based on the method of Yu. G. Odinokov (Tr. Kazansk. aviat. in-ta, 1946, no. 18), which allows arbitrary longitudinal displacements of the points of the construction; it is also assumed that the shape of transverse cross-section of the construction does not change during deformation. The solution for the panel is extended to numerical formulas. From the given example it can be seen that the solu-

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Card 1/2

Calculating panels of...

S/124/61/000/012/035/038
D237/D304

tion well represents the interaction of forces in the construc-
tion. Abstracter's note: Complete translation. ✓

Card 2/2

YUR'YEV, V.M., red.; SHPAK, Ye.G., tekhn.red.

[Study of thermosetting plastics] Issledovaniia v oblasti
termoreaktivnykh plastmass. Moskva, Gos.nauchno-tekhn.izd-vo
khim.lit-ry, 1959. 98 p. (MIRA 13:6)

1. Moscow. Gosudarstvennyy nauchno-issledovatel'skiy institut
plasticheskikh mass.
(Plastics)

5(3)

AUTHORS:

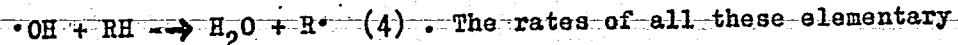
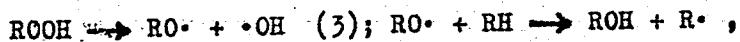
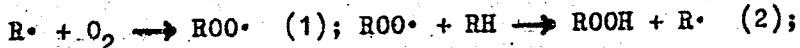
Yur'yev, V. M., Pravednikov, A. N.,
Medvedev, S. S., Academician

SOV/20-124-2-26/71

TITLE:

Influence of Side Chains on the Rate of Oxidation of Carbon
Chain Polymers. (Vliyaniye bokovykh otvetvleniy na skorost'
okisleniya karbotseptykh polimerov)PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 2, pp 335-337
(USSR)

ABSTRACT:

The principal reactions in the oxidation of hydrocarbons are
the following:

reactions determine the rate of oxidation. As is known the rate
is considerably decreased on the transition from low molecular
weight to high molecular weight compounds of analogous structure
(Refs 1, 2). This might be explained as follows: The removal of
one hydrogen atom from the hydrocarbon atom is accompanied by a

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SOV/20 -124-2-26/71

Influence of Side Chains on the Rate
of Oxidation of Carbon Chain Polymers

transition of the corresponding link of the molecule from a tetrahedral to a plane configuration. In polymers, links of the polymer chain are displaced. This is bound to increase the activation energy and thus to retard the reaction (as compared with the analogous reactions of low molecular weight compounds). The separation of one hydrogen atom from a side group (methyl-, propyl- and others) is not accompanied by a displacement of the links of the polymer chains and must possess the same activation energy as the corresponding reactions of the low molecular weight compounds. It can therefore be expected that the oxidation of the polymers with comparatively short side chains will take place mainly on the side chains. To control this assumption the authors synthesized polymethylene as well as polymers which contained the methyl and propyl side groups (Ref 4). The experiments concerning the oxidation of these polymers have shown that the introduction of side groups rapidly increases the absorption rate of oxygen (Fig 1,a); at the same time the number of oxygen molecules which are used for the cleavage of the principal chain (Figs 3, 4) increases, i.e. the oxidation really proceeds in the side chains prevalently. At a high oxidation intensity of the polymers which were produced by decomposition

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sov/20-124-2-26/71

Influence of Side Chains on the Rate
of Oxidation of Carbon Chain Polymers

of the diazo compounds, a "sewing up" (zashivaniye) of the polymer results as a consequence of ether bridges between the macro-molecules. A very low molecular fraction appears within the system as well. Possibly, these variations are due to the proceeding of a bimolecular reaction under participation of 2 oxygen containing radicals (Ref 6). Polystyrene is not "sewed up" at an oxidation intensity of up to about 20 ml O₂ per 1 g polymer, since the concentration of the radicals and the oxidation rates, respectively, seem to be too low. There are 4 figures and 6 references, 3 of which are Soviet.

ASSOCIATION: Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. L. Ya. Karpova (Scientific Physical and Chemical Research Institute imeni L. Ya. Karpov)

SUBMITTED: September 29, 1958

Card 3/3

5 (4), 5 (3)

AUTHORS:

Yur'yev, V. M., Pravednikov, A. N.,
Medvedev, S. S., Academician

SOV/20-125-6-36/61

TITLE:

The Influence of Oxidation Products on the Kinetics of the
Oxidation of Cetane (Vliyaniye produktov okisleniya na
kinetiku okisleniya tsetana)

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 125, Nr 6,
pp 1301-1302 (USSR)

ABSTRACT:

The oxidation of cetane takes place at 140° in a closed system with circulating oxygen. Figure 1 shows that, up to a reaction yield of 25-30 %, the reaction develops autocatalytically, after which it decreases rapidly and continues at a nearly constant rate above a reaction yield of 40-50 %. The concentration of peroxide compounds has a maximum at a reaction yield of 25-30 %, after which it also decreases and becomes nearly constant at a reaction yield of 40-50 %. These phenomena are indicative of the fact that, in the course of oxidation, processes occur which reduce the rate of oxidation. As in the case of hydrocarbon oxidation, the system becomes divided into two layers in the course of the process, an upper layer containing hydrocarbons and a

Card 1/2

The Influence of Oxidation Products on the Kinetics of the Oxidation of Cetane

SOV/20-125-6-36/61

lower one consisting of oxidation products, products of the lower layer were added to the cetane, which resulted in a reduction of the reaction rate (Fig 3). On the other hand, removal of the lower layer from the reaction vessel caused acceleration of the reaction. This proves that the reduction of reaction rate is caused by the accumulation of products which interrupt the development of the reaction. There are 3 figures.

ASSOCIATION:

Nauchno-issledovatel'skiy fiziko-khimicheskiy institut im. L. Ya. Karpova (Scientific Research Institute for Physical Chemistry imeni L. Ya. Karpov)

SUBMITTED:

February 11, 1959

Card 2/2

YUR'YEV, V.M.

PART I BOOK EXPLOITATION

SER/7954

International symposium on macromolecular chemistry. Moscow, 1960.

Naukogradodiz. simposium po makromolekulyarnoy khimii SSSR, Bocharov, 14-15 iyunya 1960 g.; dokladы 1 avtorezerty. Sektsiya III. (International Symposium on Macromolecular Chemistry Held in Moscow, June 14-15, 1960; Papers and Summaries) Section III. [Moscow, Izd-vo AN SSSR, 1960] 469 p. 55,000 copies printed.

Tech. Ed.: P. S. Krasnik.

Sponsoring Agency: The International Union of Pure and Applied Chemistry. Commission on Macromolecular Chemistry.

PURPOSE: This book is intended for chemists interested in polymerization reactions and the synthesis of high molecular compounds.

CONTENTS: This is Section III of a multivolume work containing papers on macromolecular chemistry. The articles in general deal with the kinetics of polymerization reactions, the synthesis of special-purpose polymers, e.g., ion exchangers, resins, semiconductor materials, etc., methods of catalyzing polymerization reactions, properties and chemical interaction of high molecular materials, and the effects of various factors on polymerization and the degradation of high molecular compounds. No generalities are mentioned. References given follow the articles.

Dobrovský, V., A. M. Trelík, and S. S. Medvedev (responsible). The Effect of Formic Acid and Formates on the Oxidation of Hydrocarbons and Hydrocarbon Polymers 364

Ropponen, V., and D. M. Yanovskiy (USSR). Study of the Effect of Some Organic and Organoelement Compounds on the Thermal Degradation of Polyvinyl Chloride 372

Michalec, O., P. Štětina, and P. Žefalín (Czechoslovakia). Degradation of Poly-C-Coproduct as a Result of Exchange Reaction Between Amide Bonds 380

Nečas, J., J. Křížek, and M. Jelínek (Czechoslovakia). Neutralization of Residual Catalyst in Polydimethylsiloxane; Effect of Thermal Neutralization on the Thermal Stability of the Polymer 388

Olejník, O., M. Klecán, and J. Šíma (Czechoslovakia). Thermodioxidative Degradation of Polymers. Study of Degradation Reactions for Different Types of Linear Polyesters 405

Koroban, M. B., B. M. Korobanovskaya, L. I. Golubchenko, S. I. Slobodkova, T. V. Slobodkova, and N. V. Tuzin (USSR). The Degradation and Crystallization of Some Polymeric Materials 414

Asgar, I. G., and A. S. Buldumalik (USSR). Investigation of the Efficiency of Inhibitors of Rubber Oxidation at Various Temperatures 423

Krasnikov, A. I., and V. N. Ven'kang (USSR). Mechanism of the Protective Action of Benzene Rings During the Radical Polymerization of Polystyrene 433

Perlin, A. A., Ye. A. Pankova, and G. I. Volkova (USSR). Mechanicochemical Transformations and Block Copolymerization During the Freezing of Starch Solutions 440 25

Ugolev, N. N., B. I. Ryabchikov, and N. A. Arzov (USSR). Modification of the Properties of Cellulose by Grafting 344 23

YUR'YEV, V.M.; ROL'BEYN, L.; OL'KHOVSKIY, A., obshchestvennyy inspektor po
okhrane truda; BUZNETSKIY, V.A., inzh.-kontroler

Readers' letters. Bez.truda v prom. 6 no.1:36 Ja '62.
(MIRA 15:1)

1. Uchastkovyy gornotekhnicheskiy inspektor Kuybyshevskoy rayonnoy
gornotekhnicheskoy inspeksii, Donetskogo okruga (for Yur'yev).
2. Glavnyy inzh. UM-79 tresta 19, g. Minsk (for Rol'beyn).
3. Upravleniye Krivorozhskogo okruga Gosgortekhnadzora USSR (for
Buznetskiy).

(Industrial safety)

YUR'YEV, V.M.; TELESHOVA, A.S.; APTEKAR', Ye.L.; ARDASHNIKOV, A.Ya.;
REZNIKOVA, O.Ya.; PRAVEDNIKOV, A.N.

Use of ion-sorption ESh-1 pumps in the MI-1305 mass-spectrometer.
(MIRA 17:4)
Zav.lab. 30 no.3:375-376 '64.

1. Nauchno-issledovatel'skiy fiziko-khimicheskiy institut imeni
Karpova.

YUR'YEV

A. R. Егоров, A. N. Аксенов, B. N. Караев
A. R. Григорьев

Справочные электротехнические установки для определения времени вспышки вспышек в диапазоне 0.5-10 мс.

A. B. Соловьевский,
B. A. Орлов,
B. N. Красинский,
A. B. Красов

Параметры элементов для определения времени СВЧ

A. N. Красов
Оптические параметры элементов

N. B. Киселев
О коррекционные коэффициенты для определения 0-30 мк

B. C. Ермаков
Метод измерения в конторе энергетика напряженности вспышки в диапазоне от 10 мс до 25 мс

10 мс
(от 10 до 25 мс)

T. A. Степанов
B. B. Соловьев
B. E. Красинский

Метод измерения времени вспышки вспышек в диапазоне 0.5-10 мс

N. P. Гончар, B. E. Красинский

Устройство для определения сопротивления вспышкам вспышкам в сплошнокристаллических диапазонах

12. B. Ермаков

12. C. Ермаков

Коррекционные коэффициенты для определения времени вспышки вспышки в диапазоне СВЧ

A. N. Красов

Темпа измерения КСВН с помощью фоторегистратора в диапазоне 10-100 мс

11. Борисов

11. Борисов

Метод измерения напряженности вспышки вспышки в диапазоне 0.5-10.0 мс

report submitted for the Centennial Meeting of the Scientific-Technological Society of
Radio Engineering and Electrical Communications in A. G. Yarov (VKEI), Moscow,
8-12 June, 1959

YUR'YEV, V.N., starshiy inzh.-tekhnolog

Scientists are helping the workers. Elek. i tepl. tiaga 5
no. 9:32 S '61. (MIRA 14:10)

1. Lokomotivnoye depo imeni Il'icha Moskovskoy dorogi.
(Railroads—Repair shops) (Railroads—Employees)

YUR'YEV, V.N., starshiy tekhnolog; SAVCHENKO, I.T., starshiy teplotekhnik

We received the TEM2 diesel locomotive. Elek. i tepl. tiaga
6 no.4:6 Ap '62. (MIRA 15:5)

1. Lokomotivnoye depo im. Il'icha, Moskva (for Yur'yev).
(Diesel locomotives—Testing)

YUR'YEV, V.N., starshiy inzh.-tekhnolog; BROVKIN, M.N., starshiy tekhnik

Cleaning of woolen fuel filter plates. Elek. i tepl. tiaga 6
no.11:24 N '62. (MKA 16:1)
(Diesel locomotives—Fuel systems)

YUR'YEV, V.S.

Automatic submerged arc welding units for vertical cylinders.
Proizv. egypt v obl. svar. no.1:69-71 '56. (MLRA 9:10)

(Cylinders--Welding) (Electric welding)

SOV/137-59-2-3118

Translation from: Referativnyy zhurnal. Metallurgiya, 1959, Nr 2, p 119 (USSR)

AUTHORS: Yur'yev, V. S., Pisarev, L. Ya.

TITLE: An Automatic Arc-welding Unit for Welding of Flanges (Elektrosvarochnyy avtomat dlya privarki flantsev)

PERIODICAL: Byul. tekhn. ekon. inform. Sovnarkhoz Rostovsk. ekon. adm. t. na, 1958, Nr 4, pp 25-26

ABSTRACT: Developed by the design department of the Taganrog "Krasnyy Kotel'shchik" ["Red Boilermaker"] plant, the automatic welding machine described is designed for welding of flanges to various cylindrical articles. The operating characteristics of the unit are as follows: Maximum diameter 1600 mm; minimum diameter 200 mm; thickness of wall 10-30 mm; maximum length 6000 mm; speed of welding 10-30 m/hr. The welding head is identical to that employed on the UT-2000 automatic welding machine equipped with a traveling mechanism. The speed of welding can be controlled continuously, the face plate may be rotated through an angle of 90°. The electric current is supplied to the welding head through a cable from a transformer of the STD-1000 type. Annular surfacing of flat areas may be performed with this welding unit. N. K.

Card 1/1

YUR'YEV, V.S.

Unit for flame and mechanical pipe cleaning. Biul.tekh.-ekon,-
inform.Gos.nauch.-issl.inst.nauch.i tekhn.inform. 16 no.7:36-38
'63. (MIRA 16:8)

(Pipe-Cleaning)

145. Physics, Nuclear

Author(s) *Shchegoleva, N. V.*

Affiliation *Kharkov Institute of Physics and Technology, V. V. and Panteleev, S. M.*

Title *An attempt to discover the 11 nuclei among the carbon fission products in the action of fast neutron energy*

Periodical *USSR. Atomnaya Promst. No. 1, 1955*

Abstract *Experiments on the action of fast neutrons conducted on the reactor of the Institute of Physics and Technology of the Academy of Sciences of the USSR. A fast neutron source of fissionable materials installed in the reactor of the Institute of Physics and Technology of the Academy of Sciences of the USSR.*

Information *Information on the action of fast neutrons on the reactor of the Institute of Physics and Technology of the Academy of Sciences of the USSR.*

Index terms *Fast neutrons, reactor, Institute of Physics and Technology of the Academy of Sciences of the USSR.*

YURYEV, V.V. (Asst. Prof.)

"On the Problem of Producing Goods and the Law of Cost under Socialism."

report presented at the 13th Scientific Technical Conference of the Kuybyshev Aviation Institute, March 1959.

S/057/63/033/002/012/023
B108/B186

AUTHORS: Bel'skiy, S. A., Myakinin, Ye. V., Petrov, A. M.,
Romanov, A. M., and Yur'yev, V. V.

TITLE: The energy transfer to the wall of the discharge chamber in
the "Alpha" machine

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 33, no. 2, 1963, 212 - 213

TEXT: The energy was measured with integral-type semiconductor and wire
bolometers connected to a measuring bridge. The vacuum in the hydrogen
plasma was $5 \cdot 10^{-5}$ - $2 \cdot 10^{-3}$ mm Hg. The energy measured by the detectors
rises monotonically with the voltage at the discharge capacitor battery.
This dependence is slightly less than in accordance with a square law.
Experiments with scintillation and boron counters and with a $\text{CaSO}_4 \text{-Mn}$

thermo-luminophor showed that the energy transferred to the wall by short-
wave electromagnetic radiation is not more than 10% of the plasma energy.
A larger part of energy lost to the walls must be due to other processes
(neutral particles; ZhTF, 30, 12, 1419, 1960).

SUBMITTED: April 9, 1962
Card 1/1

UR/0048/65/029/010/1942/1945

Yerofeev, V. S., Tu, Ie. I. Syaklin, Ye. V., Romanov, A. M.; Shalak, N. I.; Yur'ev, V. V.

TITLE: Investigation of low-energy charged particles with the Cosmos 12, 13, and Spectrum 2 satellites. Determination of the spectrum of the primary and secondary electron and proton fluxes in the atmosphere and in the outer space

PLACE in SSSR. Izvestiya. Seriya fizicheskaya . . 29, no. 1, 1965, 1942-1945

EXTRACT from the article

ABSTRACT from the article

Abstract. The authors have measured slow and fast electron fluxes in the atmosphere and in the outer space with the help of the Cosmos 12, 13, and Spectrum 2 satellites. The last satellite was used to determine the spectrum of the primary and secondary electron and proton fluxes in the atmosphere and in the outer space. The spectrum of the primary electron flux in the atmosphere was determined by the method of the scintillation counter. The spectrum of the primary proton flux was determined by the method of the proton counter. The spectrum of the secondary electron flux was determined by the method of the scintillation counter connected to an avalanche photomultiplier. The scintillation counter was surrounded with plastic scintillators. The proton counter was surrounded with a lead brick enriched in Bi, and air.

ACCESSION NR: AP5026236

Card c; 3

11-21-1966
ACCESSION NR: AP6026236

CHINESE LITERATURE

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MATH 101

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APPROVED FOR RELEASE: 09/19/2001

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YEFIMOV, Yu.Ye.; MYAKININ, Ye.Ye.; ROMANOV, A.M.; SHOAK, N.I.; YUR'YEV, V.V.

Some results of neutron measurement in the atmosphere. Izv. AN
SSSR, Ser. fiz. 19 no.10 1942 1945 0 1656

(MIRA 18:10)

YUR'YEV, V.YA.

25820. YUR'YEV, V. YA. Semenovodstvo zhizh khar'kovskoy 194. Seleksiya i
semenovodstvo, 1949, № 8, S. 7-11

SO: Letopis' Zhurnal'nykh Statey Vol. 34, Moskva 1949

YUR'YEV, V.Ya.

MULYARCHUK, S.O.; YUR'YEV, V.Ya., diyenyy chlen.

Prospective use of glutinous alfalfa (*Medicago glutinosa* M.B.) for selection.
Dop. AU URSR no.6:463-466 '52. (MLRA 6:10)

1. Akademiya nauk Ukrayins'koyi RSR (for Yur'yev). 2. Nizhyna'kyy derzhavnyy
pedagogichnyy instytut im. M.V.Hoholya (for Mulyarchuk). (Alfalfa)

YUR'YEV, V. Ya.

"The principal problems of wheat selection."

reported at Conference on Problem of Heredity and Variability, held at
Institute of Genetics, AS USSR, 8-14 Oct 1957
Vestnik AN SSSR, 1958, Vol. 28, No. 1, pp. 127-129 (author Kushner, Kh. F.)

USSR / Cultivated Plants. Cereal Crops.

M-3

Abs Jour : Ref Zhur - Biologiya, No 13, 1958, No. 58508

Author : Yur'yev, V. Ya.

Inst : Khar'kov University

Title : Principal Trends in the Selection of Grain Crops

Orig Pub : V sb.: Vopr. metodiki selektsii pshenitsy i kukuruzy,
Khar'kov. Un-t, 1957, 5-10

Abstract : No abstract given

Card 1/i

16

YUR'YEV, V. Ya.

[General breeding and seed production of field crops] Oshchisina
selektsiia i semenovodstvo polevykh kul'tur. 3., perer. izd.
Moskva, Gos. izd-vo selkhoz. lit-ry, 1958. 344 p. (MIRA 11:10)
(Field crops)

VLASYUK, P.I., akademik, otv.red.; YUR'YEV, V.Ya., akademik, zam. otv. red.; BUZANOV, I.F., akademik, red.; DANILENKO, I.A., red.; DELCHE, L.H., doktor biolog.nauk, red.; KUCHUMOV, P.V., doktor sel'skokhoz.nauk, red.; POLYAKOV, I.M., red.; STRONA, I.G., kand.sel'skokhoz.nauk, red.; TKACHENKO, F.A., kand.sel'skokhoz. nauk, red.; CHIZHENKO, I.A., kand.ekonom.nauk, red.; LESOVICHENKO, Ya.V., red.; MANOYLO, Z.T., tekhn.red.

[Vegetables and potatoes; works of scientific session, No.2]
Ovoshchnye kul'tury i kartofel'; trudy nauchnoi sessii, vypusk 2.
Kiev, Izd-vo Ukrainskoi Akad.sel'khoz.nauk, 1960. 132 p.

(MIRA 14:1)

1. Ukrainskiy ordena Lenina nauchno-issledovatel'skiy institut rasteniyevodstva, selektsii i genetiki. 2. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni V.I.Lenina (for Danilenko). 3. Chlen-korrespondent AN USSR (for Strona).
(Vegetable gardening) (Potatoes)

VLASTYUK, P.A., akademik, otd.red.; YUR'IEV, V.Ya., akademik, zam.otd.red.; BUZANOV, I.F., akademik, red.; DANILENKO, I.A., red.; DELONE, L.N., doktor biolog.nauk, red.; KUCHUMOV, P.V., doktor sel'skokhoz.nauk, red.; POLYAKOV, I.M., red.; STRONA, I.G., kand.sel'skokhoz.nauk, red.; TEACHENKO, F.A., kand.sel'skokhoz.nauk, red.; CHIZHENKO, I.A., kand.ekonom.nauk, red.; BILANIHA, L.F., red.; VIDOMYAK, A.P., khud.-tekhn.red.

[Problems in improving the quality of agricultural products; proceedings of the scientific session] Voprosy uluchsheniia kachestva sel'skokhoziaistvennoi produktsii; trudy nauchnoi sessii. Kiev, Izd-vo Ukrainskoi Akad.sel'khoz.nauk. No.4. [Feeds and livestock products] Korma i produkty zhivotnovodstva. 1960. 143 p.

(MIRA 14:1)

1. Ukrainskiy ordena Lenina nauchno-issledovatel'skiy institut rasteniyevodstva, selektsii i genetiki.
2. Chlen-korrespondent Vsesoyuznoy akademii sel'skokhozyaystvennykh nauk imeni V.I.Lenina i Ukrainskoy akademii sel'skokhozyaystvennykh nauk; Nauchno-issledovatel'skiy institut zhivotnovodstva Lesostepi i Poles'ya USSR (for Danilenko).
3. Chlen-korrespondent AN USSR (for Polyakov).
4. Ukrainskiy ordena Lenina nauchno-issledovatel'skiy institut rasteniyevodstva, selektsii i genetiki (for Strona).

(Feeds)

(Stock and stockbreeding)

YUR'YEV, V.Y., [IUr'Yev, V.IA.], akademik, dvazhdy Geroy Sotsialisticheskogo
Truda; PAKHOMOVA, V.P., kand.ekonom.nauk

Winter hardiness of certain rye varieties. Visnyk sil'hosp.nauky 4.
no.8:21-24 Ag '61. (MIRA 14:7)

1. Ukrains'kiy ordena Lenina naukovo-doslidniy institut roslinnitstva,
seleksii i genetiki.
(Rye) (Plants--Frost resistance)

YUR'YEV, V. Ya., stv. red. [redacted]; STRONA, I. G., kand. sel'khoz. nauk, zam. otv. red.; VOL'F, V. G., red.; POLYAKOV, I. M., red.; LAPTSEVICH, G. P., red.; KIREYEV, F. N., red.; POKID'KO, A. I., red.; POTOTSKAYA, L. A., tekhn. red.

[Scientific problems in seed production, the study and the inspection of seeds] Nauchnye voprosy semenovodstva, semenovedeniia i kontrol'no-semenennogo dela; sbornik materialov. Kiev, Izd-vo Ukr. akad. sel'khoz. nauk, 1962. 203 p. (MIRA 16:5)

1. Soveshchaniye po organizatsii nauchno-issledovatel'skoy raboty v oblasti semenovodstva, semenovedeniya i kontrol'no-semenennogo dela. Kharkov, 1961. 2. Ukrainskiy nauchno-issledovatel'skiy institut rasteniyevodstva, "seleksiya i genetika" (for Strona). (Seed industry)

YUR'YEV, Ya.M., inzh.; KORSHUNOV, V.A., inzh.; OBODOVSKIY, A.A., tekhnik

Improvement of devices in the interior of TP-230-2 boiler drums.
Energetik 9 no.8:1-5 Ag '61. (MIRA 14:8)
(Boilers)

YE. A. YUR'YEV

Rol' Sibiri V Ekonomike Sel'skogo Khozyaystva Strany
(by) I. G. Mishchenko (1) Ye. A. Yur'yev. Moskva, Ekon-
omizdat, 1961.

228 P. Tables.

Yur'yev, Yu.

AUTHOR: Yur'yev, Yu.

27-12-12/27

TITLE: In the Fields of the Krasnoyarsk Kray (Na polyakh Krasnoyarskogo kraya)

PERIODICAL: Professional'no - Tekhnicheskoye Obrazovaniye, 1957, # 12, p 17 (USSR)

ABSTRACT: The article states that more than 7,000 students of the Labor Reserves' agricultural mechanization schools had been working this fall on the Sovkhoz fields of the Krasnoyarsk Kray bringing in the rich harvest. They arranged a competition for the best results obtained, and the article gives some particulars mentioning the names of the most successful men.

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SUBMITTED: September 1, 1962

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YUK'YEV, Yu. I., Cand. tech. Sci -- (diss) "Effect of the degree of
rolling on the rigidity of frame saws." Minsk, 1960. 12 pp; (Minis-
try of Higher, Secondary Specialist, and Professional Education
Belorussian SSR, Belorussian Forestry Engineering Inst. d. n. i. v.,
1960); (dir.: V. A. Slobodkin; A. A. Luts, 1960)

LAPIN, P.I.; KONDRATOVICH, N.Ye.; YUR'YEV, Yu.I.; ANTSIFEROVA, T.S.; GERNET, G.M.; POTOLOVSKIY, N.I., red.; MEL'NIKOVA, M.S., red. izd-va; PARA-KHINI, N.L., tekim. red.

[Manual on the assembly, operation, maintenance and repair of the equipment of sawmills and woodworking enterprises] Spravochnik po montazhu, ekspluatatsii i remontu oborudovaniia lesopil'nykh i de-revoobrabatyvaiushchikh predpriiatii. Moskva, Goslesbumizdat, 1961. 443 p.

(Woodworking machinery) (Sawmills—Equipment and supplies)

YUR'YEV, Yu.I., kand.tekhn.nauk; GERNET, G.M., inzh.

New developments in the field of circular saws. Der.prom. 10 no.5:
14-15 My '61. (MIRA 14:5)

I. Arkhangel'skiy lesotechnicheskiy institut im. V.V.Kuybysheva.
(Circular saws)

LAPIN, Petr Ivanovich; KONDRAUTOVICH, Nikolay Yemel'yanovich; YUR'YEV,
Yuriy Ivanovich; ODINTSOVA, L.I., red.; MART'YANOVA, L.I.,
tekhn. red.

[Design and use of modern frame saws] Konstruktsii i eksplu-
atacia sovremennykh lesopil'nykh ram. Arkhangel'sk,
Arkhangel'skoe knizhnoe izd-vo, 1962. 82 p.

(MIRA 16:12)

(Saws)

YURYEV, Yu.

YU, K. *Chemical nature of gasoline from the Urat and its catalytic conversion.* N. D. ZELENINSKII AND YU. K. YEVSEEV. *Bull. acad. in U. R. S. S. Classe sci. phys. math.* 1930, 6(1-6). - Samples were treated by means of NaHSO_3 and HgCl_2 , and distn. was carried out over freshly reduced Cu . Acetylenes were detd. by dissolving them in H_2SO_4 conte.

at a rate of 6-7 drops per min. through a tube 1.2 liter. held at 300-310° and filled with platinum C (30% Pt). The total yield of aromatics was thereby increased to 61% (gasoline from Saratov oil contained no aromatics, but 50% of it could be converted to aromatics by dehydrogenating cyclic hydrocarbons). Aromatics thus obtained can be converted without further purification. Hydrocarbons not affected by the dehydrogenation process are satd. aliphatic hydrocarbons (C 64.20-66.00%, H 16.72-18.80%).

23

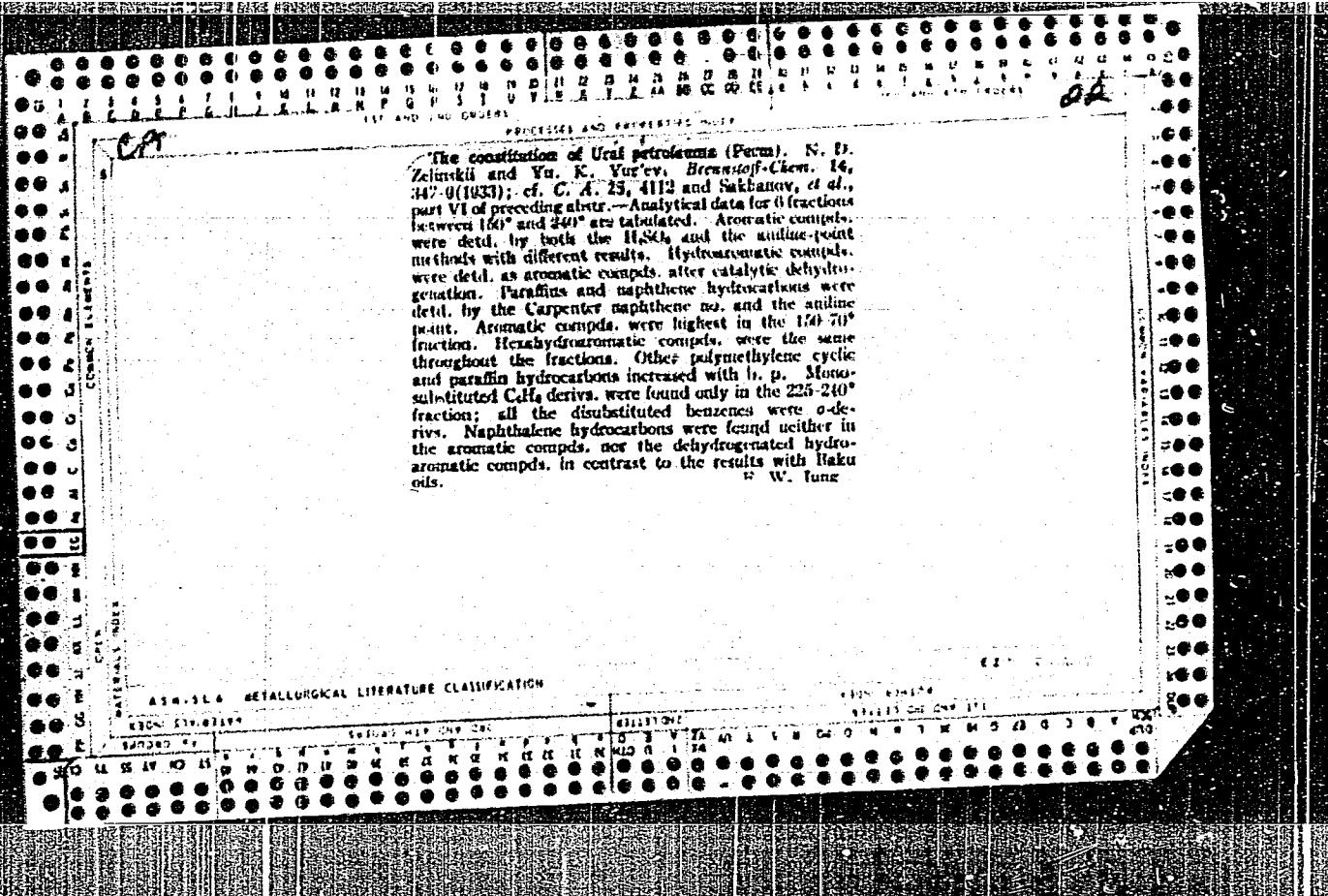
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1.1.4 METALLURGICAL LITERATURE CLASSIFICATION

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Chemical properties of petroleum from Sterlitamak. N. D. Zemskil and Yu. K. Yur'ev. *Bull. acad. sci. U. R. S. S., Classe sci. math., no. 1934, 135-9* (in English 130-40).—Sterlitamak crude oil ($d_4^{20} 0.89$) is a S crude oil (2.43% S) contg. paraffins, naphthenes and aromatic compds. After removal of S compds. with Hg salts (mercaptans and disulfides present, thiophene and its derivs. absent), 6 fractions between 60° and 300° were investigated for their content of aromatic compds. (H_2SO_4 and aciline methods), hydroaromatic compds. (dehydrogenation with Pt (cf. *C. A. 6, 508*; *7, 2224*; *17, 2387*; *18, 244, 2902, 3184*)), naphthenes (calcd. by the method of Sakharov, *C. A. 28, 206-9*) and paraffins (by difference). Naphthalene derivs. were absent. High-boiling fractions were found to be similar in chem. compn. to those of Perm crude oil (*C. A. 28, 209*) but gasoline and kerosene fractions contained a smaller amt. of aromatic compds. Nevertheless, removal of aromatic compds. and S compds. in refining kerosene cannot be avoided. V. A. Kalschevsky

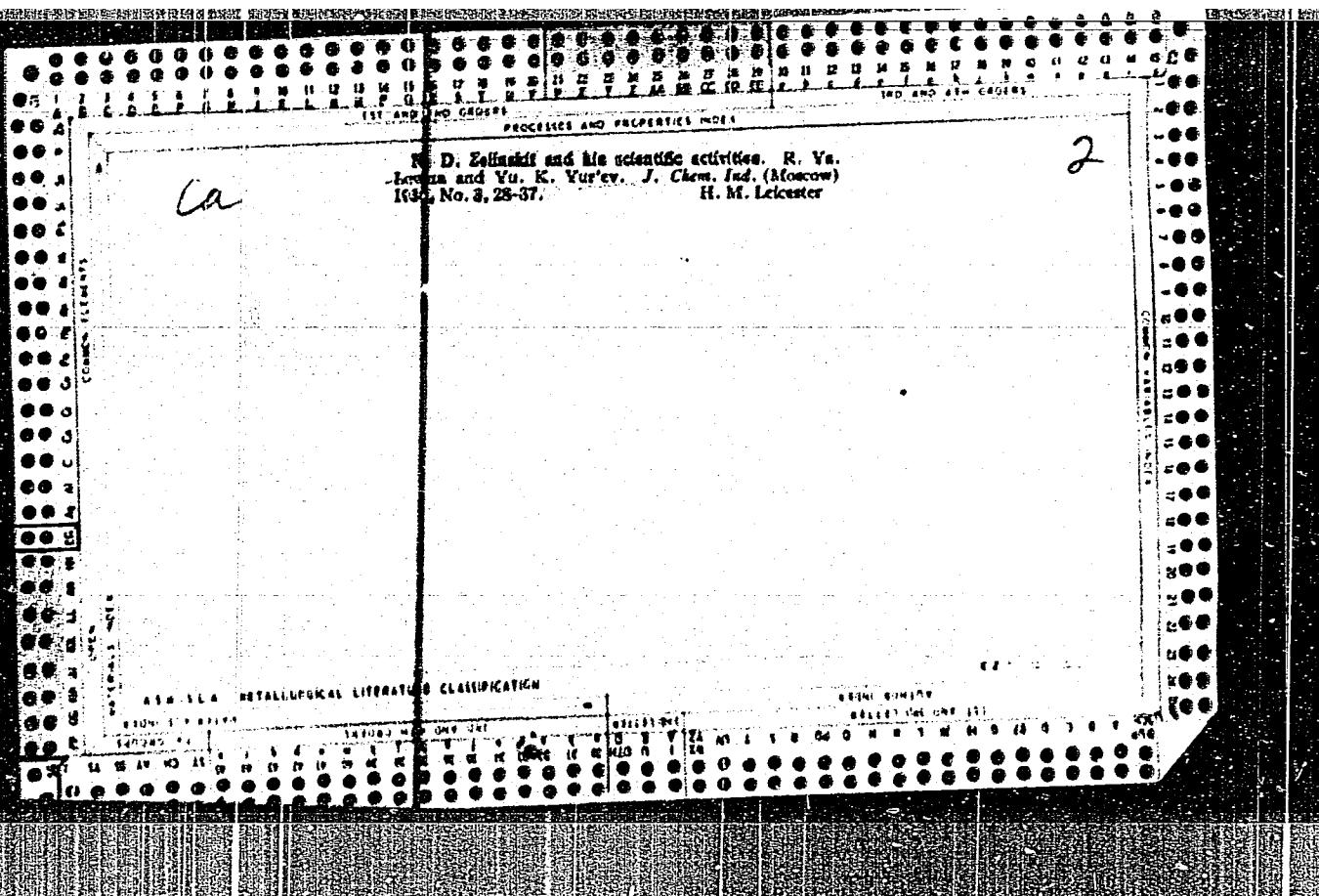
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ASH-ILA METALLURGICAL LITERATURE CLASSIFICATION

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CJ
The mechanism of the action of aluminum chloride on
biphenyl. Yu. N. Yud'ev and R. Ya. Levin. *Uchenne
Zapiski* (Zhur. Ber. Moskov. Chisto-Prav. Akad.) 4, 213-7
(1914); *Chem. Zvest.* 1915, II, 2243. Products obtained
from the cracking of biphenyl at 250°C in the presence
of AlCl₃ are predominantly benzene (73.0%) as well as
methylcyclohexane (18.5%), toluene (4%), cyclohexane
(4%). Paraffins and cedins were not formed.
W. A. Moore

MATERIALS INDEX

414.15.4 METALLURGICAL LITERATURE CLASSIFICATION

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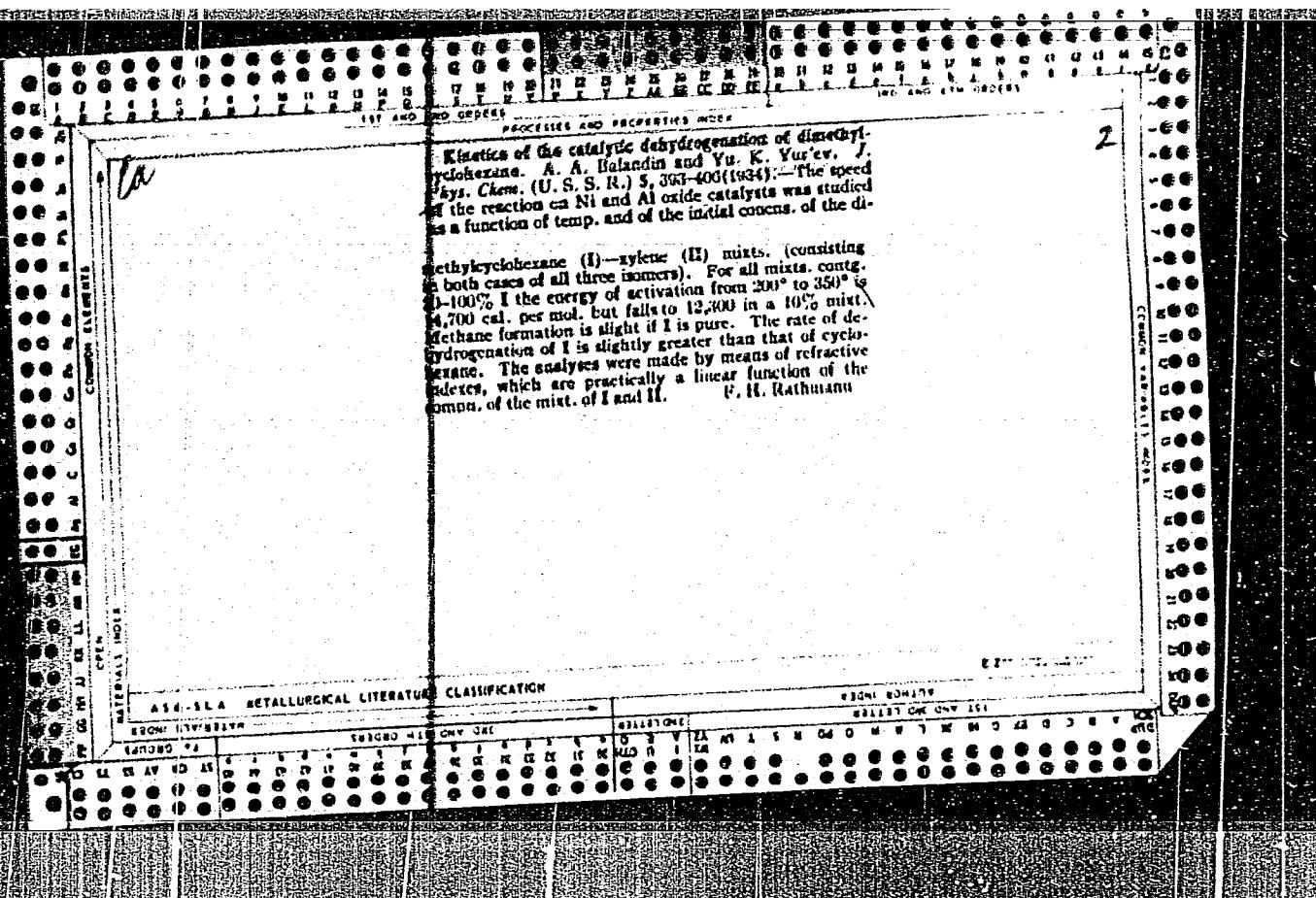
Catalytic hydrogenation of the homologs of pyrrole and dehydrogenation of their tetrahydro derivatives. V. K. V. 'Ur'ev and N. F. Shev'yana. *J. Gen. Chem. (U. S. S. R.)*, **43**, 1238-16 (1954); *cf.* Zeldin and 'Ur'ev, *C. A.*, **44**, 1110; **25**, 3097. — *N*-Methylpyrrole, *bns* 112-3°, *n*_D²⁰ 1.467, *d*₄²⁰ 0.9098; *N*-ethylpyrrole (**I**), *bns* 129-30°, *n*_D²⁰ 1.465, *d*₄²⁰ 0.9006; and *N*-propylpyrrole (**II**), *bns* 146.5-7.5°, *n*_D²⁰ 1.4773, *d*₄²⁰ 0.8833, were obtained from *CH₃LiK* and the alkyl halides by the method of Odo (C. A. **9**, 73) and then hydrogenated by the method of Sabatier and Boudet. Of the 3 catalysts used, *Ca*-asbestos failed to catalyse the reaction, Pt-C gave very poor results with a rapid poisoning of the catalyst, while Pd-asbestos at 160° gave good results. The hydrogenation was in each case continued until the product showed a const. *n*. The synthesised bases were identified by converting into the picrates and crystal. from *abs.* *alc.* to a const. *m*, *p*. *N*-Methylpyrrolidine, *bns* 80-1°, *n*_D²⁰ 1.4311, *d*₄²⁰ 0.8188, *M. D.* 27.12 (found), *M. D.* 27.19 (calcd.); picrate, *m. 224°*. *N*-Ethylpyrrolidine (**III**), *bns* 103.5-4.5°, *n*_D²⁰ 1.4322, *d*₄²⁰ 0.8160, *M. D.* 31.76 (found), *M. D.* 31.8 (calcd.); picrate, *m. 186°*. *N*-Propylpyrrolidine (**IV**), *bns* 127-8.5°, *n*_D²⁰ 1.4380, *d*₄²⁰ 0.8171, *M. D.* 30.62 (found), *M. D.* 30.37 (calcd.); picrate, *m. 101°*. The law is obtained by different investigators for these compds. is caused by contamination with fatty acids formed by the decompr. of the pyrrole ring. **III** dehydrogenated by the method of Zeldin at 200° with the *Pt*-asbestos catalyst gave **I** and some *N*-ethylpyrrole. **IV** treated at 210° as above gave pure **II**.

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Chap. 8

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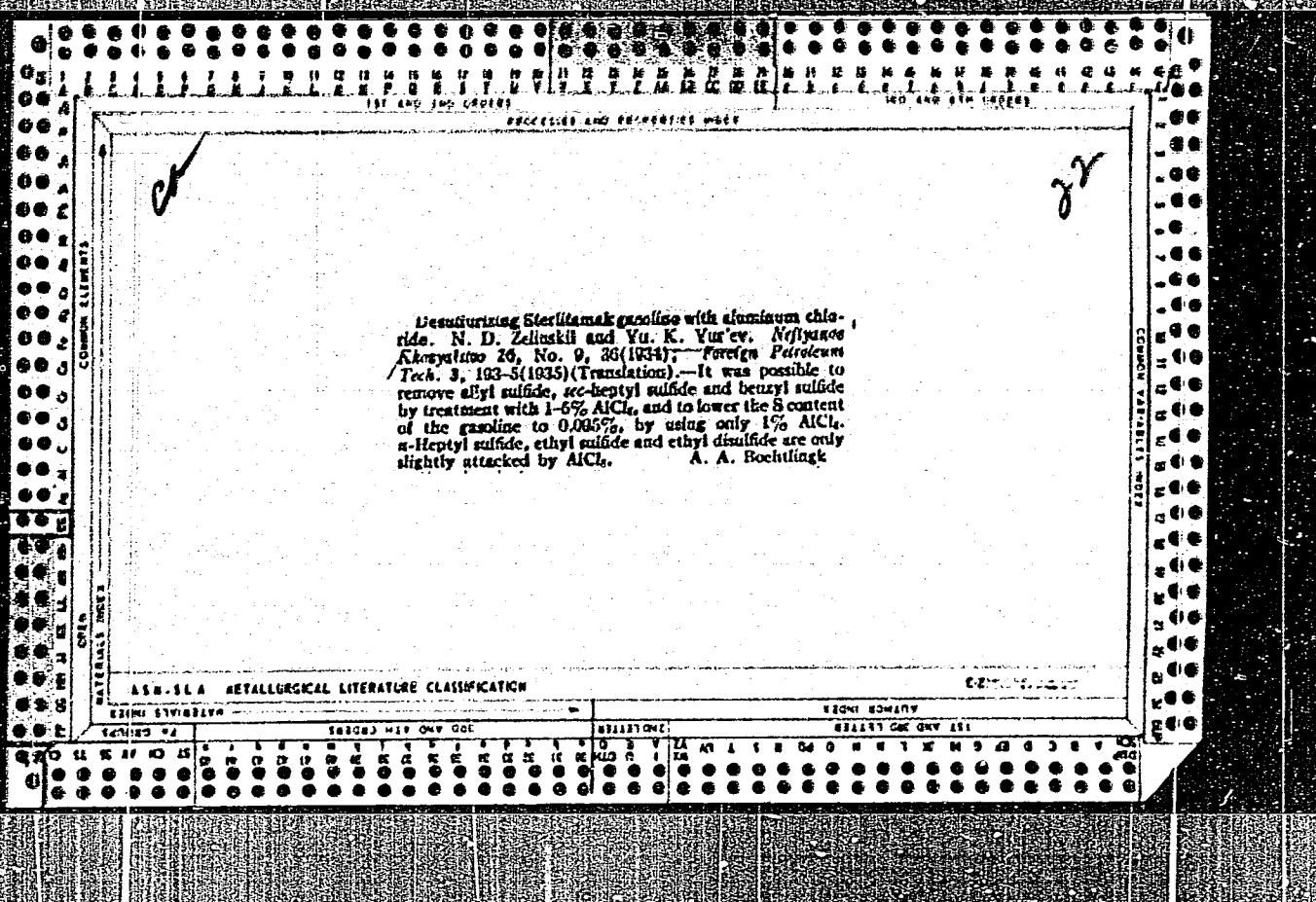


Survey of gas deposits in the Melikov gas fields, lower Volga river. V. A. Sokolov and Vn. E. Yur'ev. Neftyanaya Khimiya 26, No. 1, 30-2 (1934).—The content of gases obtained through drilling up to a depth of 100 m. and station exercised by the difference in the water level in bottles placed on the ground was CO_2 1.8-3.0, O_2 16.8-20.2, and hydrocarbons gases about 0.04%. The radioactivity of the gases was 0.82-1.85 divisions of the electrometer per min. A. A. Kochub'yan.

430-1144 BIBLIOGRAPHICAL LITERATURE CLASSIFICATION

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CO

10

Catalytic aromatization of benzene. N. D. Zelinskii and Yu. K. Yur'ev. *Compt. rend. acad. sci. U. R. S. S.* 2, 223-7 (Iz. Goren 227-0) (1935).—Samples of benzene were passed over dehydrogenation catalysts (Pt. on activated C at 310° or Ni on Al₂O₃ at 300-2°) at 1 cc. per 5 min. and the increase in content of aromatic hydrocarbons in the benzene was detd. The increase varied with the source of the benzene from 25% for those originally high in aromatic hydrocarbons to 100% for those originally low in aromatic hydrocarbons. V. II. M.

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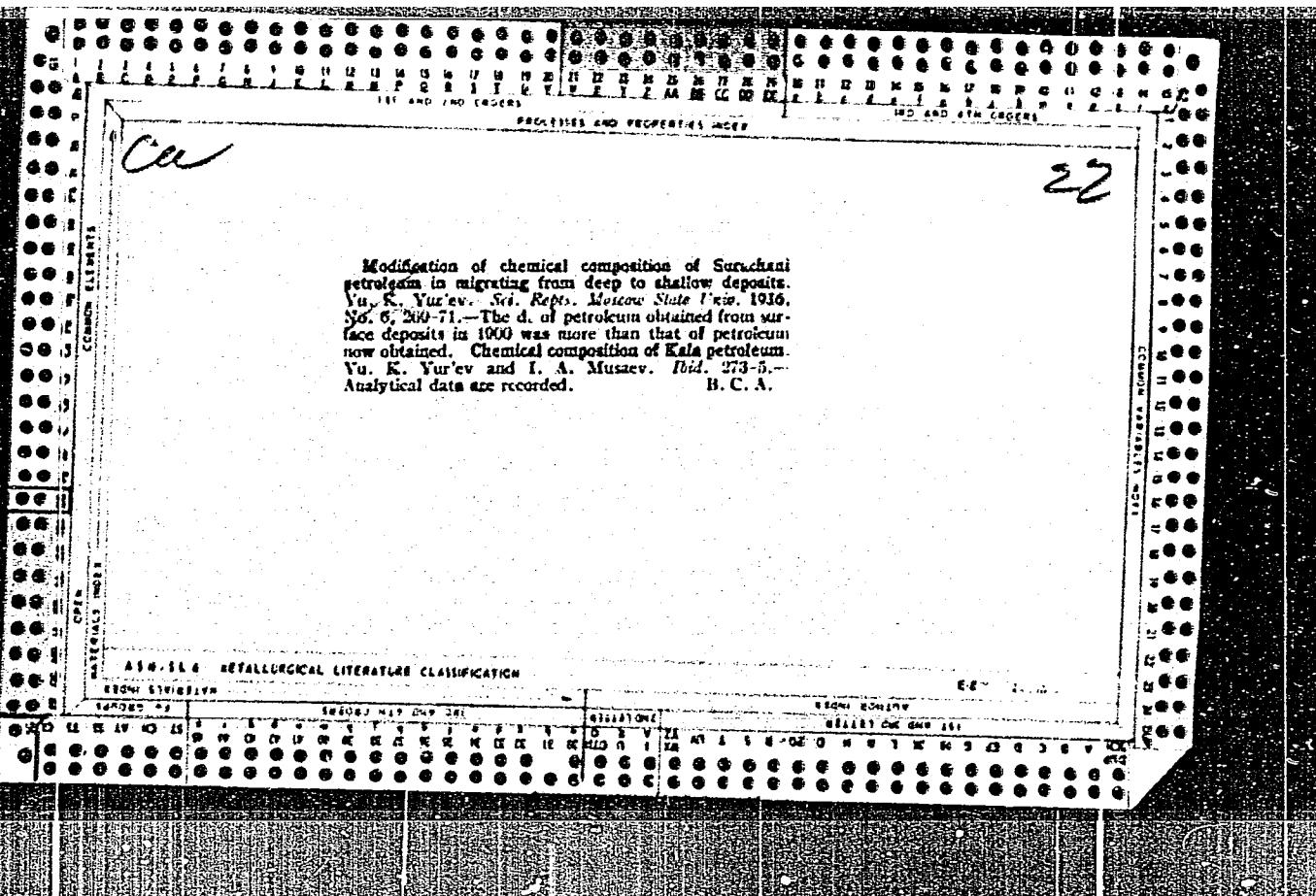
72

Cracking of kerosene and gas oil from Perm crude oil in the presence of aluminum chloride. Yu. K. Yur'ev. *Neftegaz Khar.* 1936, No. 2, 58-9.—The kerosene fraction contained 60% aromatic, 25% naphthalene, 15% paraffin hydrocarbons and 2.49% S. The reaction started at 160° and was discontinued at 230-40°. The cracked distillate amounted to 53.5% and contained 4.25% of a "benzene" and 0.8% of a "toluene" fraction, calcd. on the original kerosene. The gas oil contained 66% aromatic, 23% naphthalene, 12% paraffin hydrocarbons and 4.97% S. The cracked distillate started to boil at 260°, yielding about 32.5% of cracked distillate, which contained the same amount of "benzene" and "kerosene" fractions as the kerosene, in addn. to 0.26% S. The cracked fractions, because of their high content in aromatic hydrocarbons, can be directly nitrated. Nineteen references. A. A. Bochtingk

ASR-51A METALLURGICAL LITERATURE CLASSIFICATION

EIGHT DIVISION

EIGHT DIVISION</



Catalytic dehydrogenation of *trans*-decahydrocannabinol.
Yu. V. Kostyuk and O. I. Mironenko. No. 1094. Moscow
June 1969. No. 277. D. Digoxine is obtained by
high yield from the dehydrocannabinol by means of C-
Pt catalyst at 300° C. B.C.A.

ASA-11A - METALLURGICAL LITERATURE CLASSIFICATION

products under atmospheric pressure. I. Desulfurization in presence of 20, 40 and 60% nickel catalyst. I. N. Tita and Yu. K. Yur'ev. *Sci. Repts. Moscow State Univ.*, 1926, No. 6, 320-33. — The activity of freshly prepared catalysts falls during use to a constant value; the stable catalyst eliminates about half of the S content of petroleum products. The activity of catalysts contg. 20% Ni is less than 40% Ni and equal to those contg. 60% Ni. Evolution of H₂S begins after a certain time, the length of which is proportional to the Ni content of the catalyst. II. Desulfurization of kerosene fractions in a stream of pyrolysis gas. I. N. Tita, A. F. Plate and N. P. Glushkov. *Ibid.*, 1927, 74. — Satisfactory removal of S is achieved by passing the petroleum fraction over 40% Ni catalyst in a stream of pyrolysis gas from which olefins have been removed. B. C. A.

B. C. A.

ASS-SEA METALLURGICAL LITERATURE CLASSIFICATION

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The action of aluminum chloride on bicyclohexyl, Ya. E. Varyev, R. V. Va. Levitsa and A. I. Kudryavtsev, *J. Russ. Chem. (U. S. S. R.)*, 6, 1700-6 (1933); cf. *C. A.*, 28, 18181^a. Cracking bicyclohexyl (I) at 160-220° in the presence of $AlCl_3$ gives a product, b. 13-135°, consisting of cyclohexane (II), cyclopentane (II), and methane hydrocarbons 68.5%. The latter are composed of 41% isopentane, 16.5-42%. Aromatic compounds and olefins are not formed. It results in nearly 100% yield from recrystallized bicyclohexyl, m. 71°, by hydrogenating it in the presence of $Ni (100^\circ C)$ on Al_2O_3 (Zelinskii and Komarovskii, *C. A.*, 28, 2885) at an initial temp. of 100° and 90 atm. The exothermic reaction is regulated at 160° by addition of H_2 every 15-20 min. The results depend on energetic stirring (300 r. p. m.) of the reaction mixt. Chas. Blane.

1.0. METALLURGICAL LITERATURE CLASSIFICATION

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CO

Catalytic isomerization of normal octane. Vn. R. Vur'ev and P. Ya. Pavlov. *J. Gen. Chem. (U. S. S. R.)* 7, 67 (1937); cf. Vur'ev and Zhuravlev, *Neftegaz. Kib. No. 6* (1951).—The isomerization of octane under the conditions of dehydrogenation was studied by repeated circulation (3 times) of 25 cc. octane at a rate of 5 g. drops a min. in a H₂ current over catalysts at 310°. The isomerization was 15.6% with 20% Pt on activated C, 12.3% with 21% Ni on ZnO and 5.5% with 23% Ni on Al₂O₃. Hence, the latter catalyst is preferable for use in the dehydrogenation of petroleum fractions.

Chas. Blane

10

ASA-LSA METALLURGICAL LITERATURE CLASSIFICATION

The cracking of decahydroanthracene in the presence of anhydrous aluminum chloride. R. Ya. Levina, Yu. N. Vys'ev and A. I. Lashkunulov. *J. Russ. Chem. Soc.* (C. B. S. R.) 19, 1005-11 (1917).—The cracked product contains 16-35% aromatic hydrocarbons, 44-77% naphthalenes and a small amt. of paraffins. This shows that when double bonds occur in 6-membered rings, AlCl_3 cracking can produce aromatic compounds. H. M. L.

APPENDIX A: METALLURGICAL LITERATURE CLASSIFICATION

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Cracking bicyclopentyl in the presence of anhydrous aluminum chloride. Yu-K. Yau-see, R. Va. Levitt and M. I. Sperline. J. Gas Chem. (U. S. S. R.) 7, 581-4 (1957); cf. i. A. 31, 2173. Cracking bicyclopentyl under the conditions previously used gives 35.5% hexamethylene compounds, 40.0% pentamethylene and 18.5% paraffin hydrocarbons. The pentamethylene ring is more stable toward splitting by $AlCl_3$ than the hexamethylene ring, but it is less stable toward isomerization. The higher homologs of cyclopentane are more easily isomerized to cyclohexyl derivs. than is methylcyclopentane.

H. M. Lester

ASIA-1A METALLURGICAL LITERATURE CLASSIFICATION

Catalytic transformations of heterocyclic compounds. VII. Transformation of tetrahydrotaurine (tauridine) into pyrrolidine and thiophane. Yu. A. Tsur'ev and M. N. Tret'jakova. *J. Russ. Chem. Soc. (U. S. S. R.)* 7, 1848-73 (1937); *ibid.* 8, 1339 (1939).—When tetrahydrotaurine is passed over Al_2O_3 at 400° with NH_3 , it gives 43% pyrrolidine. If H_2S replaces NH_3 , it gives 67% thiophane. These reactions occur more easily than the corresponding ones with furan, but the mechanism is probably the same.

H. M. Leicester

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001963220012-5"

Catalytic transformations of heterocyclic compounds. VIII. Transformation of tetrahydrofuocine (furandine) into *N*-arylpiperidines. Yu. K. Yur'ev and G. A. Minkina, *J. Gen. Chem. (U. S. S. R.)*, **7**, 2043 (1937); *cf.* *C. A.*, **32**, 5481. When tetrahydrofuocine with 2 mol. of a primary aromatic amine is passed over AlCl_3 in a H₂ current at 40°, it gives *N*-aryl-substituted piperidines. *N*-Phenylpiperidine (63.5% yield), m. 117°, *mp*. 110.78, $\eta_1^{\text{D}} 1.681$, *M. R.* 145.17 (*calcd.* 145.11), exaltation 1 N/2-piurate, m. 116°. The product purified by means of a CaHgCl_2 showed practically the same *M. R.*. This mol. exaltation cannot thus be ascribed to any impurities, but is probably caused by the presence of a substituted amino group combined with the C atoms of the CaHg ring. Such a discrepancy between the *de*calcd. and *calcd.* mol. refractivities was observed in disubstituted amines by Brügel (*J. Phys. Chem.*, **16**, 218). *N*-*O*-Piperidinediure (63.4% yield), $\eta_1^{\text{D}} 103.4^\circ$, $\text{d}^2 0.981$, $\eta_1^{\text{D}} 1.5553$, *M. R.* 62.04, exaltation 1.5; piurate, m. 101.5-2°. *N*-*P*-Tetrahydropyridine (52.7% yield), $\eta_1^{\text{D}} 135.7^\circ$, $\text{d}^2 1.45^\circ$, $\text{d}^2 0.97285$, $\eta_1^{\text{D}} 1.5553$, *M. R.* 53.42, exaltation 2.28; piurate, m. 111°. Cyclohexylamine, $\eta_1^{\text{D}} 132.4^\circ$, obtained from PhNH_2 with H at 125° and 60 atm. in the presence of Ni on Al_2O_3 (*cf.* *C. A.*, **31**,

2173¹), gave 62.0% *N*-cyclohexylpyrrolidine, *b.p.* 70°, *d*₄²⁰ 0.935, *n*_D²⁰ 1.4845, M. Rn 48.08 (calcd. 47.92); picrate, m. 164.5°. Twelve references. **IX.** Synthesis of 1,3-disubstituted pyrroles. Yu. K. Vor'ev. *Ibid.* 8, 116-19. *o*-Methylfuran in 3 mol. of a primary acylamine when passed at the rate of 15 drops per min. over Al(O*i*)₃ at 75° in a 11 current gave 1-*acetyl*-2-methylpyrrole. Because of a partial decarboxyl. the yields of the latter are considerably lower than those of *N*-arylpyrroles similarly obtained from furan (cf. *C. A.* 10, 8270). *o*-*Acetyl*-2-methylpyrrole (10% yield), *b.p.* 118-19°, *d*₄²⁰ 1.014, *n*_D²⁰ 1.562, M. Rn 50.7 (calcd. 51.2). *o*-*Tetra*-2-methylpyrrole (10% yield), *b.p.* 111.5-13°, *d*₄²⁰ 1.003, *n*_D²⁰ 1.565, M. Rn 53.29 (calcd. 54.82). *o*-*Acetyl*-2-methylpyrrole (10% yield), *b.p.* 119-21°, *d*₄²⁰ 1.012, *n*_D²⁰ 1.568, M. Rn 55.8. These new pyrrole derivatives color pine shavings red-violet, do not react with K in ligroin and when oxidized do not give R_2OH and α - and β -phthalic acid, resp.; this shows that the aryl radical is not connected with the C atom of the pyrrole ring. C. R.

114.514 METALLURGICAL LITERATURE CLASSIFICATION

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CIA-RDP86-00513R001963220012-5"

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Chemical composition of Changhyrach petroleum.
Yu. K. Yurley and V. M. Kotelnikova. *Neftegaz. Khim.*
16, No. 8, 47-8 (1937); *Chimia & Industria* 39, 1088.
This crude oil can be considered as a light petroleum;
it gives 21.7% of fractions distg. below 300°. The solid
paraffin content is only 0.31% and the S content 0.33%.
Changhyrach petroleum is closely related to Gornyi
nonparaffinic petroleum, but has a peculiarity in the
naphthalene content of the motor-gasoline fraction: the
hexahydronaphthalene hydrocarbon content of the 05-122
fraction is 4 times that of the 00-05° or the 122-50°
fraction. A. P. Ivanov (Continued)

FACSIMILE AND TRANSLATION

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Catalytic transformations of heterocyclic compounds

X. Synthesis of *N*-substituted pyrroles, *N*- and α -substituted pyrrolidines and α -methylthiophene. Yu. K. Vurcov. *J. Gen. Chem. (U. S. S. R.)* 8, 1934-8 (in English, 1938); cf. *C. A.* 32, 5309. Reaction of α -substituted tetrahydrofuran with NH_2 and primary aliphatic amines in the presence of Al_2O_3 at (0) 40° gives α -substituted pyrrolidines and with H_2S under the same conditions α -substituted thiophenes. α -Methyltetrahydrofuran (I) with NH_2 , MeNH_2 (II) and EtNH_2 (III) gives, resp., α -methylpyrrolidine (27% yield), $\text{b}_{10} 104.4.5^\circ$, $\text{n}_D^{20} 1.4372$, $d_4^{20} 0.8307$; N,α -dimethylpyrrolidine (34.5% yield), $\text{b}_{10} 90.7^\circ$, $\text{n}_D^{20} 1.4252$, $d_4^{20} 0.7994$; and N -ethyl- α -methylpyrrolidine (28% yield), $\text{b}_{10} 119.20^\circ$, $\text{n}_D^{20} 1.4225$, $d_4^{20} 0.8028$. I with H_2S gives α -methylthiophene (60% yield), $\text{b}_{10} 101.2$, $\text{d}_4^{20} 1.0622$, $d_4^{20} 0.8541$. Tetrahydrofuran with II gives N -methylpyrrolidine (35.5% yield), $\text{b}_{10} 79.5$, $\text{n}_D^{20} 1.4282$, $d_4^{20} 0.8028$, and with III N -ethylpyrrolidine (50.3% yield), $\text{b}_{10} 104.5$, $\text{n}_D^{20} 1.4330$, $d_4^{20} 0.8084$. Furan with II gives N -methylpyrrole (24.5% yield), $\text{b}_{10} 115$, $\text{d}_4^{20} 1.0881$, $d_4^{20} 0.8088$, and with III gives N -ethylpyrrole (27% yield), $\text{b}_{10} 120.5$, $\text{n}_D^{20} 1.401$, $d_4^{20} 0.8000$, together with a small amt. of N -ethylpyrrole, $\text{b}_{10} 70^\circ$.

John Livak

414-56 A METALLURGICAL LITERATURE CLASSIFICATION

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Catalytic transformations of heterocyclic compounds. XI. Combined catalytic dehydration of furan and furaldin (tetrahydrofuran) with secondary and tertiary amines. Yu. K. Yur'ev. *J. Gen. Chem. (U. S. S. R.)* 9, 453-9 (1939); *cf. C. A.* 33, 5847. It had been shown that furan and tetrahydrofuran (I) are readily converted by primary amines in the presence of Al_2O_3 at 400° into N -substituted pyrroles and pyrrolidines, resp. (*cf. C. A.* 32, 5200). Similar reaction of I with Et_2NH and Et_3N formed considerable C_6H_5 and N -ethylpyrrolidine (II) in 29% and 9% yield, resp. It is believed that the reaction proceeds with intermediate formation of $\text{Et}_2\text{NCH}(\text{CH}_2)_2\text{CH}_2\text{OH}$ (III), which is hydrolyzed to give the mono-Et deriv. and EtOH and these are dehydrated to yield II and C_6H_5 . The H_2O liberated in the reaction aids in the hydrolysis of III. The reaction of 8 g. each of furan and Et_2NH gave considerable CO and 0.6 g. of a liquid product contg. traces of N -ethylpyrrole (IV). The probable cause of the poor IV yield is that the tautomerization of the intermediate 1-hydroxy-4-diethylamino-1,3-butadiene into the amino aldehyde, $\text{Et}_2\text{NCH}=\text{CHCH}_2\text{CHO}$, and its decompn. into $\text{Et}_2\text{NCH}_2\text{CH}_2\text{NH}_2$ and CO proceed at a much greater velocity than the reactions of hydrolysis and dehydrogenation to IV (*cf. C. A.* 31, 1399). C. B.

Lab. Org. Chem. im. N. D. Zelinskij, Moscow State U.

ASB-SLA - METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001963220012-5"

Catalytic transformations of heterocyclic compounds. III. Conversion of pentamethylene oxide (tetrahydrophiran) into piperidine, *N*-ethylpiperidine and pentamethylene sulfide (penthiophane, tetrahydrothiopyran). Yu. K. Vavilov, Yu. A. Pervova and V. A. Sazonova. *J. Gen. Chem. (U. S. S. R.)* 9, 500-4 (1939); *c. A. C. 33, 6285*.—Analogous to the reaction of γ -alkylene oxides (tetrahydrofuran) with NH_2 , primary amines and HS in the presence of Al_2O_3 at $400-30^\circ$ to yield the corresponding pyrrolidines and tetrahydrothiopyrines (thiophanes), the δ -alkylene oxides react under the same conditions to form piperidine and tetrahydrothiopyran (penthiophane) derivatives. Pentamethylene oxide (I), *prid.* from pentamethylene glycol, with NH_2 gives piperidine (II) (20% yield), $\text{b}.\text{p. } 101^\circ$, $\text{n}_D^{20} 1.4521$, and with EtNH_2 gives *N*-ethylpiperidine (17% yield), $\text{b}.\text{p. } 128.5-129^\circ$, $\text{n}_D^{20} 1.4442$, $d_4^{20} 0.8232$. I with HS gives pentamethylene sulfide (III) (60% yield), $\text{b}.\text{p. } 139.4-140^\circ$, $\text{n}_D^{20} 1.5148$, $d_4^{20} 0.9791$. II with HS , passed over Al_2O_3 , in a N_2 atm., gives

III (4.3% yield). **XIII.** *Synthesis of pyrrolidines and tetrahydrothiophene by catalytic dehydration of tetramethylene glycol (1,4-butanediol) with ammonia and with hydrogen sulfide.* Yu. K. Vor'ev and N. G. Medovitschikov. *Ibid.* 628-31. *The yields are slightly lower than those obtained with tetrahydrofuran (IV) [cf. *C. A.* 52, 5449]. Tetramethylene glycol (VI) passed with NH_3 over Al_2O_3 at 400° gives pyrrolidine (35% yield) and with H_2S gives tetrahydrothiophene (thiophane) (62.5% yield). IV is obtained in 2% yield when V is passed over Al_2O_3 in a N_2 atm.* John Livak

ABSTRACT METALLURGICAL LITERATURE CLASSIFICATION

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Moscow State U.
Lab. Org. Chem.
In. N.D. Zelinskij.

Catalytic reactions of heterocyclic compounds. XIV.
Mechanism of transformation of oxygen-containing five-membered heterocyclic rings to nitrogen- and sulfur-containing heterocycles. Yu. K. Yur'ev, Kh. M. Minashev and K. A. Samukayev. *J. Gen. Chem. (U. S. S. R.)* 9, 1710-16 (1939); cf. *C. A.* 33, 7776. — To prove that intermediate hydroxy amino and hydroxy mercapto compds. are formed when tetrahydrofuran is converted into pyrrolidine or tetrahydrothiophene at high temps. over an Al_2O_3 catalyst the authors showed that these proposed intermediates react smoothly under the conditions to yield the expected compds. Tetrahydrofuran was prep'd. by catalytic hydrogenation of furan in the presence of palladized asbestos and also by hydrogenation of furan in an autoclave in the presence of Ni on Al_2O_3 . Yield 88%, b.p. 64.8-65.8°. Tetramethylene chloroboridin (I), prep'd. by the action of HCl on tetrahydrofuran, b.p. 63-4°, n_D²⁰ 1.4520, d₄²⁰ 1.0867; yield 65-7%. Bennett's method (cf. *C. A.* 23, 2423) was used for the prep. of I. The yield was 56%, b.p. 70°, n_D²⁰ 1.4910, d₄²⁰ 1.0289, M.R. 29.85 (calcd. 29.89). It is a colorless oil with a terrible odor. It was converted into tetrahydrothiophene by passing 7-8 drops a min. over Al_2O_3 at 250°, 300°, 350° and 400°. Likewise, tetrahydrofuran and H₂S were converted into tetrahydrothiophene. The yields were favored by increase in temp. (at 400° 85% was obtained from I and 90.5% from the furan). In every case I gave a higher yield than tetrahydrofuran. A yield of only 23.5% of tetrahydrothiophene was obtained when concd. H₂SO₄ at 0° was used to dehydrate I. A similar yield was obtained when I and H₂S were passed at 400° over Al_2O_3 . I was treated with PbBr₂ and 1-chloro-4-bromobutane, b.p. 63-4°, n_D²⁰ 1.4955, was obtained. The Gabriel reaction (*Ber.* 24, 2224 (1891)) gave pyrrolidine instead of 1-chloro-4-bromobutane. A 34% yield of pyrrolidine was obtained by passing I and NH₃ over Al_2O_3 at 400°. D. Ackerly.

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

Catalytic transformations of heterocyclic compounds. XV. The stability of the catalytic and optimum conditions in the transformation of tetrahydrofuran into pyrrolidine and thiophane and to that of furan into thiophene. Yu. K. Yur'ev and V. A. Trotskaia. *J. Gen. Chem. (U. S. S. R.)* 10, 31-47 (1940); *cf.* *C. A.* 34, 37319. — In the methods previously described the transformation of tetrahydrofuran (furazolidin) into pyrrolidine and thiophane (*C. A.* 32, 8489) and that of furan into thiophene (*C. A.* 30, 38159) are best effected at 400° by passing the reactants at a rate of 6 drops/min. in a strong current of NH_3 and H_2 , resp. In the pyrolysis of pyrrolidine and thiophane a 40-cm. layer and in that of thiophene a 72-cm. layer of the Al_2O_3 catalyst are used. The activity of the catalyst remains practically const. for long periods of the reactions. *Chem. Abstr.* 34, 10232 (1940).

CHARLES H. BROWN,
Chas. H. Brown

434.524 METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001963220012-5"

The catalytic transformations of heterocyclic compounds XVI. The synthesis of some pyridine and quinoline derivatives of pyrrolidine. Yu. E. Yur'ev, V. I. Baran, A. N. Emel'yan, S. M. Selivertsova and S. I. Chernyakova. *J. Gen. Chem. (U. S. S. R.)* 10, 1939-42 (1940); *cf. C. A.* 34, 4734. —When 2-aminopyrrolidine (I) and tetrahydrofuran (II) are passed over Al_2O_3 in a N_2 stream at 300°, they give 17% $N-(2\text{-pyridyl})$ pyrrolidine, $d_4^{20} 1.0141$, $\eta_2^{20} 1.5797$, $M.R$ calcd. 45.04, found 46.29 (*picrate*, m. 199°). Similarly, II and 3-aminopyrrolidine (III) at 400° give 18% $N-(3\text{-pyridyl})$ pyrrolidine, $d_4^{20} 1.045$, $\eta_2^{20} 1.5768$, $\lambda_{max} 3.853$, $M.R$ calcd. 45.04, found 46.24 (*picrate*, m. 199.5°). 2-Methyltetrahydrofuran (IV) and I give 14% $N-(2\text{-pyridyl})$ -2-methylpyrrolidine, $d_4^{20} 1.0313$, $\eta_2^{20} 1.5250$, $M.R$ calcd. 49.61, found 51.25 (*picrate*, m. 131°). III and IV give 17% $N-(3\text{-pyridyl})$ -2-methylpyrrolidine, $d_4^{20} 1.1818$, $\eta_2^{20} 1.6434$, $\eta_2^{20} 5.1718$, $M.R$ calcd. 40.60, found 51.14 (*picrate*, m. 128-8.5°). II and 2-aminoquinoline give 0.5% $N-(2\text{-quinuclidyl})$ pyrrolidine, $d_4^{20} 1.1332$, $\eta_2^{20} 1.6604$, $M.R$ calcd. 60.38, found 64.57 (*picrate*, m. 152.5°). H. M. Leicester

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APPENDIX B METALLURGICAL LITERATURE CLASSIFICATION

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APPROVED FOR RELEASE: 09/19/2001

CIA-RDP86-00513R001963220012-5"

REACTANT AND PRODUCTS AREA

Catalytic transformations of heterocyclic compounds XVII. The use of the reaction of dehalocyclization of oxygen-containing heterocyclic compounds into nitrogen- and sulfur-containing compounds in establishing the structure of cyclic oxides. Vu, K., Yur'ev, V. I., Gusev, V. A., Tronova and P. P. *Vysokomol. Chem. (U. S. S. R.)* 11, 344-8 (1969); *U. S. Pat. 3,677,673*. The compd. obtained by Franke and Lieben (*C. A.* 63, 6773) by dehydrogenation of 1,3-hexanediol with HgS, was stated by them to be 2-methyltetrahydropyran. The dehydrogenation actually yields a mixt. of compds., but the chief product is 1,3-d₂. When it is passed over Al₂O₃ at 300° in an NH₃ stream, it gives 2-ethylpyrrolidine, and when the gas is H₂S, the product is 2-ethyltetrahydrothiophene, *mp* 135.5-0.5°, *n*_D²⁰ 1.4800, *DP*²⁰ 0.9451, *MR* caked, 35.08, found 35.30 (HgCl₂ compd., *m. 100°*). The structure of this is proved by its prep. from synthetic 2-ethyltetrahydrofuran (I). Thus the compd. of *V.* and *I.* is actually *I.* An increased no. of C atoms in the side chain of substituted γ -alkene oxides causes a lower yield of product when they are converted to the corresponding N and S compds.

H. M. Lester

AIA-15A. METALLURGICAL LITERATURE CLASSIFICATION

YUR'EV, Yu. A.

Passage of furan and heterocyclic oxides, etc., through a current of dihydrofuran and dihydrocyclic 1,4-heterocycles containing nitrogen or sulfur.

Yu. A. Yur'ev, S. B. Dubrovina, and E. P. Tregubov (Moscow State Univ.). *J. Russ. Chem. (U.S.S.R.)* 16, 943-50 (1946); cf. *C.A.* 37, 4071^u.—Dihydrofuran (2 g.) passed over Al_2O_3 at 400° in an Ni_3 stream gave 0.2 g. pyrrolidine, b. 83-8³ (biscrate, m. 111-12°), and 0.5 g. pyrrole, b. 130-1°; much decompr. was observed. Dihydrofuran (2 g.) passed over Al_2O_3 at 325° in a H_2S stream gave 0.4 g. thiophene and a very small amt. of tetrahydrothiophene; somewhat greater yields, and more decompr., were obtained at 400°. 3-Bromotetrahydrofuran passed over Al_2O_3 in a stream of H_2S gave at 400° 2 g. of crude product, which dropped to 1 g. at 300° (10 g. starting material in all cases), and was sepd. into thiophene and tetrahydrothiophene. Dihydrofuran failed to undergo a transformation after passage over a Pt-charcoal catalyst at 140-200°, but on standing at room temp. in a sealed tube it yielded a minute amt. of furan. Tetrahydrofuran was unchanged by passage over this catalyst at 400°. Dihydroxyran gave 60% dihydrothioglyran, b_{743}^{20} 143.6-4.2°, n_{D}^{20} 1.5328, d_{4}^{20} 1.0244, after passage over Al_2O_3 at 400° in a H_2S stream. XX. Transformations of heterocycles containing oxygen into heterocycles containing selenium.

Yu. A. Yur'ev. *Ibid.* 851-4.—Furan (10 g.) was passed over Al_2O_3 at 450° in a current of H_2Se ; the product, after washing with alkali, was identified as selenophane, b. 110-10.7° (23%), n_{D}^{20} 1.5642, d_{4}^{20} 1.5251. Tetrahydrofuran on similar treatment at 400° gave 54% selenophane (tetrahydroselenophane), b_{743}^{20} 139.2-9.6°, n_{D}^{20} 1.5479, d_{4}^{20} 1.4715. Similarly, pentamethylene oxide at 400° gave 50% pentamethylene selenide, b_{755}^{20} 159-9.5°, n_{D}^{20} 1.5461, d_{4}^{20} 1.3962.

G. M. Kosolagoff

YURIEV, Yu. K.

"Catalytic Transformations of Heterocyclic Compounds. XI. The transformation of Heterocycles containing oxygen into Heterocycles containing selenium." by Yu. K. Yuriev (p.253)

SO: Journal of General Chemistry (Zhrurnal Obshchey Khimii) 1946, Volume 16, No. 6

C4

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Catalytic transformations of heterocyclic compounds. **XXI. Transformation of furan and furanilide into hydrocarbons.** Yu. K. Yusov, V. A. Tronova, M. Ye. Kurnikova, and B. G. Novosadova (Moscow State Univ.), *J. Gen. Chem. (U.S.S.R.)*, 17, 131-6 (1947) (in Russian); cf. *C.A.*, 41, 1686c. —Furanilide (5.6 g.) was passed over Al_2O_3 in a strong current of C_2H_2 at 375°; the catalyst slowly became covered with a brown deposit and had to be regenerated occasionally by air-blowing. The catalyst temp. rose initially up to 405-430°, becoming stabilized generally at about 380°. The yield of products was 1.5-1.93 g. The combined products from 10 runs were dried over $CaCl_2$ and fractionated. A fraction (0.76 g.), b. 78-84°, n_D^{20} 1.4701, contained cyclohexadiene, formed evidently by bond redistribution of the initially formed cyclohexyne. A fraction (1.1 g.), b. 100-20°, n_D^{20} 1.4740, appeared to be a product of $CaCl_2$ condensation over Al_2O_3 , admixed with methylcyclohexadiene (from propylene and C_2H_2). Furan (5 g.) was passed over activated C in a C_2H_2 stream at 375-500°; the best yield (16%) of butadiene was obtained at 425°; when $CaCl_2$ (5%) on activated C was used at 200-450°, the best yield of butadiene (20.1%) was obtained at 425° when 5 g. furan was passed through the catalyst in 1.6 hrs. The results are interpreted as favoring the possibility of petroleum formation from carbohydrate matter in nature.

G. M. Kosolapoff

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Behavior of 3-bromofuranidine in the Grignard reaction. I. Yu. K. Yur'ev, M. G. Veronkov, I. P. Gragerov, and G. V. Kondratenko. Zhur. Obshch. Khim. (J. Gen. Chem.) 18, 1841-10 (1948); cf. following abstract.

3-halofuranidines (3-halotetrahydrofurans) react with Mg only sluggishly, yielding mixed organo-Mg compds. which rearrange to a great extent, with ring opening, to give MgN derivs. of γ -unsatd. primary alic. and react only to a minor extent as true Grignard reagents. Use of Na in place of Mg results in complete rearrangement and ring opening. 3-Bromofuranidine (75 g.) in Et_2O was added to 12 g. Mg (activated by iodine) in 200 ml. Et_2O over 10 hrs., with stirring and boiling, let stand overnight, heated 2 hrs., treated with 67 g. allyl bromide in Et_2O , boiled 1 hr., and treated with dil. H_2SO_4 ; the usual treatment gave a variety of products from which were recovered 6 g. allylcyclized, br_m 113.5-14.5°, d_4^{20} 0.8454, n_D^{20} 1.4227; 3,6-dibromo- γ -furanidine, br_m 140.5-41°, d_4^{20} 0.8826, n_D^{20} 1.4446; and 40 g. unchanged starting material. 1-Penten-4-ol, br_m 114.5°, d_4^{20} 0.8314, n_D^{20} 1.4245, was obtained in 57% yield from C_6H_5MgCl and CH_3I ; this (95 g.) in CH_2Cl_2 was treated with 60 g. Br in CH_2Cl_2 with cooling and, after evapn., the crude dibromide was shaken 24 hrs. with 20 g.

powd. KOH in Et_2O , with addn. of 20 g. KOH every 4 hrs., to yield 45% 2-methyl-4-bromofuranidine, br_m 64.5°, d_4^{20} 1.4231, n_D^{20} 1.4770. This (82 g.) was slowly added to 12 g. Mg in Et_2O at reflux, heated 4 hrs. longer, treated with 80 g. allyl bromide in Et_2O , heated 2.5 hrs., let stand overnight, and treated as above to yield 28% 1-penten-4-ol, br_m 101.5-2°, d_4^{20} 0.9056, n_D^{20} 1.4533; if the reaction mixt. with Mg is decompd. by dil. acid prior to addn. of allyl bromide, the products include (low yields): 2-methylfuranidine, br_m 79-80°, d_4^{20} 0.8576, n_D^{20} 1.4092; the above-described bifuranidine, and 27% 1-penten-4-ol. Addn. of 38 g. 3-bromofuranidine to a dry Et_2O soln. of $MgBr$ (obtained in anhyd. state from 12.1 g. Mg and 95 g. $BrCH_2CH_2Br$) yields a bulky ppt.; heating 20 hrs. and decompn. by H_2O gave 30 g. unchanged starting material and traces of lower- and higher-boiling materials, which were not identified. Addn. of 38 g. 3-bromofuranidine to 23 g. Na in Pt_6O , and 4 hrs. refluxing gave 80% 1-penten-4-ol, br_m 112.5-13.5°, d_4^{20} 0.8109, n_D^{20} 1.4232. G. M. K.

USSR/Chemistry - Synthesis
Furans

Oct 48

"Synthesis of Beta-Alkylfuranidines, II," Yu. K.
Yur'yev, I. P. Gragerov, Moscow Ord of Lenin State
U'imeni M. V. Lomonosov, Lab of Org Chem imeni Acad
N. D. Zelinskiy, 5 pp

"Zhur Obshch Khim" Vol XVIII, No 10

Gives general method for synthesis of beta-alkyl-
tetrahydrofurans by reaction of lithium alkyls
with beta-bromotetrahydrofuran. Ring opening
occurred by action of Mg on beta-bromotetrahydro-
furan with formation of 3-buten-1-ol. Submitted
22 Sep 47.

2/50T68

IUR'EV, Iu. K.

Iu. K. Iur'ev and I. P. Gragerov, *Synthesis of β -alkyl-furanidines. II.* p. 1811

This work gives a general method for the synthesis of β -alkyl-furanidines by interaction of lithium alkyls with β -bromo-furanidine. It is shown that the reaction of lithium on β -bromo-furanidine causes the opening of the ring of the latter to occur with the formation of allyl carbinol.

The Lomonosov, Moscow State University, Holder of the Order of Lenin
The Zelinskii Lab. of Organic Chem., September 22, 1947

SO: Journal of General Chemistry (USSR) 28, (30) No. 10 (1948):

PA 53/49125

USSR /Chemistry - Hydration
Chemistry - 2-Butyne-1, 4-diol
"Hydration of 2-Butyne-1, 4-diol," Yu. K. Yur'yev,
I. N. Korobitsyn, Ye. S. Krig, Lab. of Org. Chem.
Imperial Acad. N. D. Zelinsky, Moscow State U. Invent.
M. V. Lomonosov, 1/2/3 pp

"Dok Akad Nauk SSSR" Vol LXII, No 5

Oct 48

Hydration of 2-butyne-1, 4-diol in methanol in
presence of mercuric sulfate at its solution in
27% sulfuric acid gave a 37% theoretical yield of
4-methoxy-1-butanol-2-one, b.p. 86.5 at 9 mm,
d (20/4), 1.095, n (20/0), 1.4395. Use of other
solvents resulted in resinification. Submitted
by Acad A. N. Nesmeyanov, 13 Aug 48.

53/49125

USSR /Chemistry - Hydration (Contd) Oct 48

YUR'YEV, YU. K.

53/49125

CA

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Hydration of 2-butyne-1,4-diol. Yu. K. Vur'ev, I. K. Korolitsyna, and E. K. Brige. *Doklady Akad. Nauk SSSR*, **63**, 645-7 (1948). Hydration of 2-butyne-1,4-diol (I) in MeOH in the presence of Hg sulfate gives 4-methoxy-1-butanol 2-ene (II). I (43 g.) was added in 32 g. MeOH to 32 g. MeOH and 2 g. Hg sulfate with cooling, then stirred 8 hrs. with addition of two 2-g. portions of Hg sulfate, neutralized with Na_2CO_3 , filtered, dried, and distilled, yielding 37% II, bp 86.5-7.5°, d_2^{20} 1.093, n_D^{20} 1.4305. The result was the same if 37% HgSO_4 was used for the medium. II gives a 2,3-dimethoxybutyrene in 22% yield (from I-III). The product results from migration of the OH group to give a 1,2-diol of allene type, which rearranges to an acyclon and thus adds MeOH to give II. G. M. Kosolapoff

PA 55/4920

YUR'YEV, YU. K.

USER/Chemistry - Ethylene
Chemistry - Hydrogen Sulfide

Nov 48

"Interaction of Ethylene Sulfide with Hydrogen Sulfide in the Presence of Aluminum Oxide," Yu. K. Yur'yev, X. Yu. Novitskii, Lab of Org Chem, Institute of D. Zelinsky, Moscow State University M. V. Losoncov, 3 pp

"Dok Ak Nauk SSSR" Vol XXXII, No 3

Study of interaction of ethylene oxide with hydrogen sulfide in presence of aluminum oxide at 200° showed that basic reaction products, five- and six-member heterocyclic compounds with two heteroatoms, were acetylaldehyde-thiacetal, dioxane

55/4920

USER/Chemistry - Ethylene (Contd)

Nov 48

thioketone and acetaldehyde. During contact of thioxane and acetaldehyde, both dioxane and ethylene oxide with aluminum oxide, both latter and acetaldehyde were obtained at 200°. Latter was disproportionated. Submitted by Acad A. N. Demeyanov 15 Sep 48.

55/4920

Avt: YUR'YEV, Yu. K., ALYEKSANDROV, L. Ye., ARBATSKIY, A. V. [TDR]

29566

Sintyee nyekotorykh gomologov i N-eamyeshchennykh pirrola i pirrolidina.
Zhurnal Obshch Khimii, 1949, vyp. 9, s. 1730-33. -Bibliogr: s. 1733

SO: LETOPIS' NO. 40

PA 65/49T27

YUR'YEV, Yu. K.

USSR/Chemistry - Heterocyclic
Compounds

Apr 49

Furan. Pyrrolidine.

"Contact Conversion of Pyrrolidine Pyrrolidine
and Thiophane XIII" Yu. K. Yur'yev, A. A. Buger
and N. V. Kova, Moscow Ord of Lenin State U imeni M. V.
Lomonosov Lab of Org Chem imeni Acad N. D.
Zelinsky 3/2 pp

"Zhur Obshch Khim" Vol XIX, No 4

Complete hybrids of these five-membered heterocyclic
compounds in the manner of furan (pyrrole
and thiophane) and the manner of pyrrolidine
and pyrrolidine. Surz. 1949. No 4. 45 p.

PA 65/49728

YUR'YEV, Yu. K.

USER Chemistry - Thiophene, Tetrahydro-
Furan, Tetrahydro-"The Preparation of Alpha-Beta- and Alkylfuranidine
into Their Corresponding Thiophenes, XIII,"
Yu. K. Yur'yev, I. P. Gragorov, Moscow Ord. of
Lomonosov, Lomonosov, Lab or Org
Chem. Inst. and N. D. Zelinsky, 54 pp

"Zur Deutch. Khim" Vol XIX, No 4

Alpha-alkyl and beta-alkyl-thiophenes are prepared by the subject reaction, which gives a greater yield (72-81% of the theoretical) of the beta-alkyl-thiophenes than of the alpha-compounds

65/49728

USER Chemistry - Thiophene, Tetrahydro- Apr 49
(Contd)

(Chemical yield is 65-70% of the theoretical). The former have higher boiling points, specific gravities and indexes of refraction than the latter. Submitted 31 Jan 48.

65/49728

CA

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Synthesis of some homologs and *N*-substituted derivatives of pyrrole and pyrrolidine. Yu. K. Yur'ev, L. B. Aleksandrov, A. V. Arbatov, V. M. Karataev, I. K. Korobitsyna, and M. A. Pryanishnikova. *Zhur. Obshch. Khim.* (J. Gen. Chem.) 19, 1730-31 (1949); cf. *Uchenye Zapiski Moskov. Gosudarstv. Univ.*, No. 79 (1943).—Furan (12 g.) and 17 g. *AmNH*₂ passed in a *N* stream at 8-10 drops per min. over *Al₂O₃* at 405-50° gave 14% *1-aminopyrrole*, *b*₁₀ 05-6°, *d*₂₀ 0.8643, *n*_D²⁰ 1.4731. Similarly, at 450°, 8 g. 2-ethylfuran in *NH*₃ gave 5% *2-ethylpyrrole*, *b*₁₀ 164-5°, *d*₂₀ 0.9042, *n*_D²⁰ 1.4942. Furanimine (1) (18 g.) and 14.4 g. allylamine at 400° gave *1-allylpyrrolidine*, isolated as the *tarate*, *m.p.* 141° (from *EtOH*), in unstated yield, with much tar. 1 (7 g.) and 9.7 g. *AmNH*₂ at 300° gave 55.5%; *1-aminopyrrolidine*, *b*₁₀ 81-2°, *d*₂₀ 0.8131, *n*_D²⁰ 1.4430; *tarate*, *m.p.* 117.5-18° (from *EtOH*). 1 (5 g.) and 5.6 g. cyclopentylamine at 400° gave 40% *1-cyclopentylpyrrolidine*, *b*₁₀ 91-2°, *d*₂₀ 0.8992, *n*_D²⁰ 1.4744; *tarate*, *m.p.* 140.5-51°. Furanimine (30 g.) and 10 g. (CH₃NH)₂ at 400° gave 1.3 g. *1,1'-ethylenedipyrrrolidine*, *b*₁₀ 151-2°, *d*₂₀ 0.9800, *n*_D²⁰ 1.4715. Similarly, 20 g. 1 and 10 g. *n-CdH(NH)₂* gave 2.8 g. *1,1'-m-phenylenedipyrrrolidine*, *b*₁₀ 137-0°, *d*₂₀ 1.071, *n*_D²⁰ 1.5010; *tarate*, *m.p.* 126-7° (from *EtOH*). 2-Ethylfuranimine (10.2 g.) in *NH*₃ similarly gave 9%; *2-ethylpyrrolidine*, *b*₁₀ 122-3°, *d*₂₀ 0.8805, *n*_D²⁰ 1.4420; *tarate*, *m.p.* 84-5° (from *EtOH*).
G. M. Kosolapoff

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CH

Catalytic dehydration of 4-amino-1-butanol. XXV
Yu. K. Yar'ev, G. P. Mikhalevskii, and S. Z. Shapiro
(Lomonosov State Univ., Moscow). *Zhur. Osnichesk.*
Khim. (J. Gen. Chem.) 19, 2217-2219 (1969); *cf. C.A.* 72,
54841, 44, 1092a, 1482d. -Hydrolysis of $\text{C}(\text{CH}_3)_3\text{OH}$
by aq. K_2CO_3 gave 80% $\text{HO}(\text{CH}_2)_3\text{OH}$, bp 108-112°, d_4^{20}
1.0407, n_D^{20} 1.4308, which with HCl gave $\text{C}(\text{CH}_3)_3\text{OH}$,
bp 80-82°, d_4^{20} 1.1322, n_D^{20} 1.4486. This (10 g.) in 310
ml. BuOH was refluxed 8 hrs. with 96 g. KCN in 165 ml.
 H_2O , yielding 56% $\text{HO}(\text{CH}_2)_3\text{CN}$, bp 135-6°, d_4^{20} 1.1036,
 n_D^{20} 1.4178. This (21 g.) in 200 ml. BuOH treated at
reflux temp. with 13 g. Na yielded 24% $\text{HO}(\text{CH}_2)_3\text{OH}$
(1), bp 207-8°, d_4^{20} 0.9686, n_D^{20} 1.4081. Passage of 7-8
l. at 5-6 drops/min. over Al_2O_3 at 400° with a N atom. in
the reaction tube gave 37% pyrrolidine, bp 85-7°, d_4^{20}
0.8569, n_D^{20} 1.4431 (picrate, m. 111.5°); at 450° the yield
was 25%. Similar reaction but in a NH_3 atm. at 400° gave
20% pyrrolidine and about 10% pyrrole; at 450° only 20%
pyrrolidine and traces of pyrrole were obtained. In all
expts. much carbonization took place, indicating severe
decompn. of I. G. M. K.

PA 66/49722

YUR'YEV, YU. K.

USSR/Chemistry - Dehydration
Glycols

Aug 49

"Catalytic Dehydration of Thiodiethylene
Glycol and 1,4-Thioxane With Hydrogen Sulfide,"
Yu. K. Yur'yev, K. Yu. Kovitskij, Lab of Org
Chemistry N. D. Zelinskij, Moscow State U
Iakov, M. V. Ikonosov, 3t pp

"Dok Akad Nauk SSSR" Vol LXVII, No 5

Records the yields of dithiane from the
reactions of thiodiethylene glycol with hydrogen
sulfide and thiokanes with hydrogen sulfide
in the presence of aluminum oxide during a
temperature interval of 200-4000 C for periods

USSR/Chemistry - Dehydration
(Contd)

Aug 49

of 55-80 minutes for 11 experiments. On the
basis of these, the melting point of dithiane
is computed at 108-110C C. Submitted
1 Jun 49.

66/49722

Simultaneous catalytic dehydration of thiadiethyleneglycol and *p*-oxathiane with hydrogen sulfide. Yu. K. Yur'ev and K. Yu. Novitskii. *Doklady Akad. Nauk S.S.R.* 67, 803-6 (1949).—Passage of $S(CH_2CH_2OH)_2$ (I) or $SCH_2CH_2OCH_2CH_3$ (II) over Al₂S₃ at 210-400° in H₂S yields $SCH_2CH_2SCH_2CH_3$, the optimum temp. are 235-25° and 250°, resp., at which 67% yields are obtained. I, b.p. 136-7°, d₄²⁰ 1.1815, n_D²⁰ 1.6211, was passed over Al₂S₃ in a rapid H₂S stream at 1 g. per 0.8 min.; similar conditions were used for II, b.p. 115.5-0.5°, d₄²⁰ 1.1170, n_D²⁰ 1.5072, which was obtained by heating I with 1 mole KHSO₄. *Doklizne m.* 110.5° (from Et₂O, followed by sublimation). G. M. Kosolapoff

Simultaneous dehydration of ethylene glycol with hydrogen sulfide. Yu. K. Yur'ev, K. Yu. Novitskii, and E. V. Kukhar'kaya. Doklady Akad. Nauk S.S.R. 68, 541-4 (1940). - Reaction of $(\text{CH}_2\text{OH})_2$ with H_2S over Al_2O_3 at 400° yields mainly thiophene, with liberation of C_2H_4 . Dehydrated and dioxane is formed smoothly. The reaction probably proceeds via formation of ethylene oxide. Passage of 203.0 g. glycol (at 10 g./hr.) in a H_2S stream over Al_2O_3 at 225° gave 29 g. water-dried oil, which gave 3.4 g. ρ -oxakiane, bp 145-6°, n_D^{20} 1.5023, d_4^{20} 1.1100, and 0.6 g. ρ -diketone, m. 109°. The aq. layer gave 11 g. Acet. 0.1 g. of its acetal with glycol, bp 82.5-3.5°, n_D^{20} 1.3960, d_4^{20} 0.9882, 13 g. ρ -dioxane, bp 103-1°, n_D^{20} 1.4230, d_4^{20} 1.0304, as well as 105 g. unreacted glycol. Similar reaction at 400° gave, from 203 g. glycol, 1.2 g. thiophene and a mixt. of unresolved S derivatives; considerable amounts of C_2H_4 were evolved. $\text{O}(\text{CH}_2\text{CH}_2\text{OH})_2$ (20 g.) heated to 200° over 4 g. aluminosilicate catalyst gave 88.5% dioxane. $(\text{CH}_2\text{OH})_2$ was not dehydrated even at 200°. G. M. Kosolapoff

CA

Dehydration of thiodiethylene glycol and disproportionation of ρ -oxathiane. Yu. K. Yur'ev and K. Vn. Novitskii. *Doklady Akad. Nauk S.S.R.* **68**, 717-10 (1949); cf. preceding abstr.— $\text{S}(\text{CH}_2\text{CH}_2\text{OH})_2$ (10 g., b, 136-7°, η_2^0 1.5211, d_2^0 1.1815) passed over Al_2O_3 in 90 min. at 225° in a N atm. gave 4.1 g. ($\text{K}^{\text{P}^{\text{21}}}$) ρ -dithiane, m. 109.5°, 0.6 g. ρ -dithiane, b.p. 145.8°, η_2^0 1.5000, d_2^0 1.1156, and a trace of an aldehyde, probably AcII. Heating 30 g. $\text{S}(\text{CH}_2\text{CH}_2\text{OH})_2$ and 8 g. aluminumsilicate catalyst to 170-80°, and then at 230-40° when distn. of oxathiane was complete, gave 17 g. ρ -oxathiane, b.p. 147-8°, η_2^0 1.6086, d_2^0 1.1183, and 3.1 g. ρ -dithiane. Passing 12.5 g. oxathiane over Al_2O_3 at 280° in 90 min. in a N atm. gave 5.4 g. unreacted material, 0.0 g. ρ -dithiane, and some AcII; at 230°, 3.9 g. unreacted material is obtained, as well as 0.8 g. dithiane and some AcII; HS was detectable. G. M. Kosolapoff

CA

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Synthesis of amines of the cyclohexane series. VII. K. Vur'ev and I. K. Kostylevna. Vestn. Mosk. Univ. Khim. No. 3, Ser. Fiz.-Nar. i Khet. Nauk No. 2, 87 (1950). HCO_2NH_2 , prep'd. by slow evap. of 115 g. HCO_2Na and 110 g. $(\text{NH}_2)_2\text{CO}_2$, is treated at 160-180° with 70 g. cyclohexanone and heated 7 hrs. with recycling of the distil. ketone after drying; after dith. and refluxing the sepd. foemyl deriv. 5 hrs. with 75 ml. concd. HCl. 30% KOH is added to isolate 40% cyclohexylamine, b_p 133-4°, n_D^{20} 1.4601, d_4^{20} 0.8650, and 13% decyclohexylamine, b_p 123-4°, n_D^{20} 1.4832, d_4^{20} 0.9114. HCO_2NH_2 (31 g.) treated similarly with 38 g. cyclohexanone gave 31% *N*-methylcyclohexylamine, b_p 111-15°, n_D^{20} 1.4890, d_4^{20} 0.9087; *p*-nitro, b_p 137° (from EtOH). Similarly, HCO_2NHPh (from 107 g. PhNH_2 and 130 g. HCO_2H), and 59 g. cyclohexanone gave 40% *N*-cyclohexyl-aniline, b_p 158.5-9.5°, n_D^{20} 1.5010, d_4^{20} 1.0155. G. M. Kosolapoff

1951